University of Alberta

Sound-to-Symbol Pedagogical Practices in Music and Language

by

Natalie Anne Prytuluk ©

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment of the requirements for the degree of Master of Education

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ABSTRACT

This study describes and compares sound-to-symbol pedagogical practices guiding grade one students through emergent literacy to independent reading in both music and language. Practices are described that developed phonological awareness/musical phonological awareness from the perspective of three early childhood teachers with Reading Recovery training and three music specialists with Orff or Kodály training. The six teachers were interviewed and observed in their classrooms at the beginning of the school year.

Data indicated similarities between music and language practices through; development of aural awareness, repetition of sound-to-symbol concepts, connections between familiar and new materials, and a belief in student success.

Differences between music and language practices were indicated with the early childhood teachers using a sound and symbol teaching progression to facilitate literacy development, in contrast with sequential sound-to-symbol progression used by the music specialists. Amount of teaching time, and use of aural, visual, and kinesthetic modalities within music and language also differed. One implication for teaching practice is that music specialists may wish to adapt practices from the early childhood sound and symbol approach to literacy.

University of Alberta

Faculty of Graduate Studies and Research

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled Sound-to-Symbol Pedagogical Practices in Music and Language submitted by Natalie Anne Prytuluk in partial fulfillment of the requirements for the degree of Master of Education.

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CHAPTER 1

INTRODUCTION TO THE STUDY

"An analogy to language may not be out of place here. Just as one can tease apart a series of levels of language - from the basic phonological level, through a sensitivity to word order and word meaning, to the ability to appreciate larger entities, like stories- so, too, in the realm of music, it is possible to examine sensitivity to individual tones or phrases, but also to look at how these fit together in larger musical structures. . . "

- Howard Gardner 1993, p.108. -

Choosing to compare pedagogical practices in music and language literacy may be equated to comparing apples and oranges. Yet there is a general likeness between apples and oranges; both are edible fruits with peels, both have flesh and seeds and both grow from these tiny seeds into trees that produce the fruit we harvest. To our immediate senses apples and oranges look, feel, smell and taste very different, but the process of creating the fruit is similar. The same is true of music and language. To outward appearances the product is very different; a song, a poem, a conversation or an instrumental improvisation. Yet it is the assumption of this thesis that the pedagogical processes utilized to achieve the product are very similar. The following fictitious example illustrates this assumption.

Mrs. Noteworthy asks her grade one music students to "Guess which song this is?" as she taps the rhythm (the way the words sound) of a song on her rhythm sticks. Hands go up. She chooses one. "Yes George?" "It's See-Saw" exclaims George excitedly.

"Let's check it." she says to the other students. The students sing along and tap the rhythm on the palm of their hand. "Was he right?" Heads nod in agreement. "How would we write the rhythm to 'See-Saw'?" Carla's hand is the first one up. She says "ta, ta, ti-ti, ta" "Come up and write it on the board." Carla writes **I I I I I** . *The students check again to see if she is correct by singing the song and tapping the rhythm. "Are there any other songs we know that have the same rhythm as See-Saw?" asks the teacher. The students think and come up with two more that begin the same way. They talk about what is the same and different and then get a pencil and paper to write the rhythm of the whole song independently. The teacher circulates and checks their work.*

Across the hall in Ms. Garden's grade one class, the teacher has just finished reading *The Cat in the Hat* *by Dr. Seuss and the students are playing a guessing game. "Guess which word I'm thinking of?" says Ms. Garden as she says the phonemic sounds "/k/ a/ t/ ". Hands go up. "Cat!" says Ruby excitedly. "Put your thumb up if you thought the word was cat." instructs Ms. Garden. Thumbs go up. "Who can write the sounds for cat on the board?" Alec's hand is the first one up. He says the letter names "c - a - t" and writes them on the board. The students check to see if all the sounds are there and then begin thinking of all the words that rhyme with cat. The teacher writes their responses on the board. They talk about what is the same and different in the word list and then go to centers. Many of the students choose the writing center and practice copying and reading the words from the board. Two students pick up* *The Cat in the Hat* *and look at it together. The teacher circulates and comments on their activities.*

These two fictitious teachers appear to be teaching very different concepts to the students. In reality, their objectives are much the same: building experiences and understanding within a meaningful sound-to-symbol context that will enable students to become successful readers and writers. Both are using strategies to help facilitate student progression through emergent literacy towards independent reading.

Sound-to-symbol is the learning process leading to an awareness that a symbol stands for a sound in speech or in music. Students experience sounds aurally before labeling, reading or writing the symbolic representation (Montgomery, 2000; Campbell, 1991; Gordon, 1980). This process enables students to develop meaningful connections from what they hear and understand to the abstract symbolic representations necessary for reading musical notation or reading printed language.

Quality pedagogical practices in music and early childhood education can be said to develop literacy in similar ways. Both begin with what the child knows and build upon that knowledge through sensory experiences appropriate for the child's developmental level. Both teach from the sound (speech or song) to the symbol (alphabet or musical notation) (Glazer & Burke, 1994; Campbell, 1991; Hargreaves, 1986). Certainly the ways in which children learn music and language often parallel one another, and these similarities will be highlighted throughout this study.

According to researchers, music and language acquisition both begin at birth (Campbell, 1991; Hargreaves, 1986; Gardner, 1983; Vygotsky, 1962; Piaget, 1952). From the early years, children begin expressing themselves vocally through speech and song as they listen and respond to speech and music. This early literacy process in both music and language begins in the home and is stimulated through the child's interaction with the environment. Many suggest it is an ideal time to provide a rich and prolonged period of aural experiences in music and language before reading and writing are formally introduced. In language arts, several researchers have termed this process "emergent literacy" (Campbell, 1991; Clay, 1991; Juliebo, 1995; Glazer & Burke, 1994; Zimmerman, 1982).

Emergent literacy research (Clay, 1991; Hall, 1987; Teale & Sulzby, 1986) indicates that children's literacy abilities are developed through exposure to literacy activities such as books, conversation, environmental print and viewing peers and adults reading and writing.

Early childhood music research (Hargreaves, 1986; Simmons, 1986; Shuter-Dyson & Gabriel, 1981) suggests the same holds true in music. Parents who encourage and participate in their child's music making provide musical literacy activities such as listening to music, singing, instrumental playing and role models of musicians and composers. This provides a stimulating musical environment for music literacy development.

Teachers of music or early childhood education need to be aware of the literacy experiences children bring with them. For those students who do not have these rich experiences it is important to provide appropriate literacy activities in music and language as soon as possible to guide students from emergent literacy to independent reading (Juliebo, 1995; Clay, 1991). Researchers and educators in language learning and pedagogical practices in early childhood music indicate this sound-to-symbol process as being important in providing these successful emergent literacy experiences (Juliebo, 1995; Clay, 1991; Hargreaves, 1986; Gordon, 1980; Vygotsky, 1962). Music and language literacy "...begins with active, holistic experiences that combine the seeing and hearing of models with doing and experimenting, and that doing, experimenting, verbalizing, and comparing oneself with models leads to the acquisition of skills in performing and discriminating, and finally to skills in conceptualizing musical [and spoken] sound and relating it to printed symbols." (Walters, 1992, p. 541) Unfortunately, many children do not receive music or language stimulation other than television and radio and do not learn to attend to music or language in a meaningful way. Thus, the role of the teacher in facilitating literacy development in music and language becomes increasingly important.

Within early childhood education a large body of research has been conducted in the teaching of sound-to-symbol learning processes and their relationship to reading; most importantly that of phonological awareness. Phonological awareness is a conscious realization that speech consists of a series of syllables, rhymes, sounds and phonemes (Yopp, 1995; Stahl, 1992; Jager Adams, 1991). "Children who are phonologically aware can (1) separate spoken language into words, syllables, rhymes, and sounds, and (2) blend sounds together to pronounce words" (Fox, 1996, p. 16).

An important component of phonological awareness is that of phonemic awareness. Griffith, Klesius and Kromrey (1992, p.85) define phonemic awareness as "the metalinguistic ability which allows children to reflect on features of spoken language. Specifically, phonemic awareness is an insight into the structure of spoken language, including some ability to manipulate phonemes . . . Correlational studies have identified phonemic awareness as a very powerful predictor of reading achievement in first grade." Children's knowledge of phonemes is crucial to the process of learning to read not only in English, but other languages as well (Jager Adams, 1991). However, for students lacking phonemic awareness, specific language experiences can be offered, such as storytelling, rhymes, word games and riddles, that will significantly improve their progress in reading acquisition (Jager Adams, 1991; Lundberg, Frost & Peterson, 1988; Bradley & Bryant, 1983). Given the importance of phonological awareness in reading acquisition and the similarities of the sound-to-symbol process in learning language and music, it seems important to consider whether there might be an equivalent to phonological awareness in music learning.

It is generally agreed among music educators and researchers that to read music, students must possess a well developed sense of tonality (Gordon, 1971, 1980; Krumhansl, 1979; Heffernan, 1968; Petzold, 1963), and that the perception of tonal patterns is more effective for music reading comprehension than the perception of individual pitches (Grutzmacher, 1987; Cuddy, 1971; Deutsch, 1970, 1972). According to researchers (Jordan-deCarbo, 1997; Grutzmacher, 1987; Petzold, 1960), music reading is a response to a group of notes rather than a single note. "...[M]usic reading skills can be developed by learning a 'vocabulary' of tonal patterns, or configurations, which can then be applied to new situations" (Petzold, 1963, p.272).

Jordan-DeCarbo further supports the view that music students learn combinations of two to five tonal or rhythmic sounds which could be equivalent to a tonal or rhythmic word. These combinations are then taken to a metacognitive level which allows the student to label and talk about these abstract entities. "Gradually we are able to aurally recognize familiar sound patterns in songs, to learn the visual symbols that represent these sounds, and, lastly, to interpret the symbols into sound through performance of written musical notation" (1986, p. 39).

In addition, a large body of research in music reading has underscored the importance of developing awareness of sound patterns through activities that include singing, playing instruments, and listening, before introducing the symbol system of musical notation (Persellin, 1992; Sims, 1991; Martin, 1991). Therefore a musical equivalent to phonological awareness, as in language, develops awareness of the sound through activities that lead to an understanding of the symbol.

Given that music literacy and language literacy develop through a conscious awareness of and response to sound patterns and that the process of learning leading to the awareness that a symbol stands for a sound in speech or in music is similar, it seems likely that a musical equivalent to phonological awareness can be derived.

For the purpose of this investigation, then the term musical phonological awareness will be used as the equivalent to phonological awareness in language and defined as a conscious awareness that music can be subdivided into sequences of sound patterns. These sounds are defined as notes and are characterized by sound frequency (tones) and duration (rhythm). Children who possess musical phonological awareness would be able to demonstrate an ability to (1) separate music into rhythmic or tonal sound patterns (i.e. ta ta ti-ti ta or la-sol-mi), and (2) recognize and discriminate among similar patterns in familiar and unfamiliar music.

Looking to a body of research for guidance is limiting. The extensive research in phonological awareness and its implications for emergent reading exposes a considerable absence of research in the area of musical phonological awareness and its relation to phonological awareness in literacy development. While over 12,000 studies in language reading were conducted between 1879 and 1972, fewer than 250 studies in music reading occurred during the same period. From this, major theories in language literacy have been proposed and adopted, yet theories that would explain the phenomena of music literacy are lacking (Hodges, 1992).

In a review of this music reading research (Persellin, 1992; Martin, 1991; Sims, 1991; Hanh, 1987; Petzold, 1963), Hodges (1992) outlined the importance of keeping abreast of language literacy research as a guide to assist in understanding music literacy. He suggested that future research might be directed toward continued understanding of the process of music literacy and the most effective methods of developing music literacy in students.

From language literacy research it has been accepted that the ability to hear, produce and manipulate specific components of language is crucial to children's ability to read and write and has been identified as phonological awareness. From this, specific pedagogical practices have been developed to promote skills in phonological awareness (Yopp, 1995, 1992; Clay, 1991; Jager Adams, 1991). The concept of musical phonological awareness and its impact on developing music literacy in students has received little empirical attention. However, the similarity in sound-to-symbol process between music and language literacy and the overwhelming support of phonological awareness as a precursor to language literacy suggests that these ideas merit further consideration.

In particular, the comparison of pedagogical practices of music teachers and early childhood teachers stands out, as very few studies address similarities and differences in literacy practices among music and language educators (Hahn, 1987; Gordon, 1980; Stern, 1972; Monroe, 1967). Questions that arise are: What do music teachers do to guide their students through emergent musical literacy to independent music reading using sound-to-symbol techniques? Are these practices similar to or different from those employed with language in early childhood classrooms? Do these practices appear to promote phonological awareness or musical phonological awareness? Could effective sound-to-symbol practices in one discipline be applied to the other? Clearly the evidence points to the need for further inquiry into the area of musical phonological awareness practices in music education, their relationship to phonological awareness practices in early childhood education and the importance of building sound-to-symbol relationships as a precursor to music and language literacy.

Purpose of the Study

The purpose of this study, then, was to collect and describe sound-to-symbol pedagogical practices that teachers use to guide grade one students through emergent literacy to independent reading in both music and language. This study endeavored to describe activities that develop phonological awareness or musical phonological awareness from the perspective of early childhood teachers and music specialists. Interpretation of emerging patterns led to analysis of similarities and differences between music and early childhood sound-to-symbol teaching practice.

Definition of Terms

Early Childhood is defined as the years from birth to age eight (Colwell, 1982).

Emergent Literacy and **Emergent Musical Literacy** assume that the foundation for language/ music reading and writing begin early in the child's life through meaningful social interaction in the immediate environment (Clay, 1991, Shuter-Dyson & Gabriel, 1981).

Literacy is the ability to speak, listen to, read and write language.

Musical Literacy is the ability to sing, listen to, read and write music notation.

Duration consists of time elements. They are beat, tempo, rhythm, and meter (Dowling & Harwood, 1986).

> **rhythm** is a grouping of successive pitches or an extended pattern of durational and accentual relationships. It is a regular rise and fall in the flow of speech.
>
> **beat** is a steady pulse or rhythmic stress in poetry or music

Pitch is the highness or lowness of a sound. Pitches are organized into scales made up of a limited number of pitches selected from an infinite number of possibilities (Gardner, 1993; Dowling & Harwood, 1986).

Phonological Awareness refers to an awareness of aspects of language such as words in sentences, rhyming units within words, beginning and ending sounds of words, syllables in words, phonemic awareness, and the ability to physically produce these sounds (Eldridge, 1995).

Musical Phonological Awareness is a conscious awareness that music can be subdivided into sequences of sound patterns (i.e. ta ta ti-ti ta or la-sol-mi). These sounds are equated with notational symbols and are characterized by sound frequency (tones/pitch) and duration (rhythm).

Phonemic Awareness is a conscious awareness and understanding that speech consists of a series of sounds or phonemes and the ability to manipulate the phonological segments in words (Eldridge, 1995).

Sound-To-Symbol refers to the learning process leading to an awareness that a symbol stands for a sound in speech or in music (Montgomery, 2000, Campbell, 1991).

Significance of the Study

There has been little empirical research in emergent musical literacy and the pedagogical practices music specialists utilize to facilitate the process from sound to symbol. This study provided an opportunity to explore possible connections between music and early childhood methodologies. An understanding of potential implications for teaching methods in both music and early childhood classrooms with regard to the development of sound-to-symbol learning processes and their relation to phonological awareness and musical phonological awareness was derived. The findings from this study will contribute to establishing a body of research that could influence teaching practice in both music and early childhood education.

Research Questions

This study focused on the following questions:

1. What are the sound-to-symbol pedagogical practices used by early childhood teachers and music specialists to guide grade one students through emergent literacy to independent reading?

2. Of these practices, which activities were used to promote development of phonological awareness or musical phonological awareness?

- How do teachers incorporate these sound-to-symbol practices in their planning? Are they consciously utilized by teachers?

- From a teacher's perspective, what are perceived as problems in utilizing sound-to-symbol practices with students?

- Do teachers feel they have adequate training, information and support in teaching using a sound-to-symbol process?

- Are there particular theories or methodologies shaping teacher practice in relation to the sound-to-symbol process?

3. Given the information gathered from the above questions, what are the similarities and differences in sound-to-symbol pedagogical practice between music and early childhood? Could practices observed in one area be applied to the other?

CHAPTER 2

RELATED LITERATURE

Overview

Shaping the framework for this study meant delving into several diverse areas of research in both music and language literacy and seeking out the common threads among them. The review begins with psychological aspects connecting music and language acquisition; namely child development theories. This is followed by early childhood education philosophy and pedagogical practice and concludes with an analysis of current research of sound-to-symbol practices in early literacy in both music and language.

THEORIES OF CHILD DEVELOPMENT

The area of developmental psychology has provided theories that have guided and shaped our understanding of how children acquire language and music skills. "Most children in a given culture have a similar sequence of developmental achievements as a joint result of their physical and cognitive maturation, and their common socialization experiences." (Hargreaves, 1986, p. 84) The theories of Jean Piaget, Jerome Bruner, Lev Vygotsky, and Howard Gardner have provided insights into how children learn and think and their insights have had an impact upon education and planning developmentally appropriate activities for children over the past fifty years.

These four theorists have greatly influenced how we presently view young children and their development. One of the main threads common to all is that children learn first through sensory experiences before moving to the symbol systems of language or music. Certain factors such as environment and culture may determine how quickly a child masters these symbol systems, but research in child development (Gardner, 1983; Zimmerman, 1982; Vygotsky, 1962; Bruner, 1960; Piaget, 1952) has left its mark upon teaching practice and how we view children's learning in relation to their development.

Using theories of developmental psychology as a framework, research in language development and musical development show many similarities in how children acquire these abilities. Music appears to parallel language in comparable developmental sequences (Campbell, 1991; Hargreaves, 1986). "[M]usic is a form of thought and . . . it develops over the life span much as other forms of thought develop, principally those such as language, mathematical reasoning, and ideas about the physical world" (Serafine, 1988, p. 5). A closer examination of the parallels between language and music development merits consideration.

Research Parallels in Language and Musical Development

The term, language, has been defined by linguists to include several key features found across all cultures (Bee, 1992).

1) Language is a symbol system in which a particular combination of sounds and/or gestures are used to stand for an object, event, idea, or relationship. It is an arbitrary system as these sounds and/or gestures vary from one language to another.

2) Every language is governed by rules for stringing together individual symbols to create meaning.

3) Language is a creative activity. Speakers of a language combine the symbols in unique ways to create new meanings according to their needs and desires.

Music can be defined in much the same way as language. It too includes several similar key features that are found across all cultures (Fiske, 1997, 1990).

1) Music is an arbitrary symbol system in which a particular combination of sounds consisting of pitch, rhythm and/or timbre create music meaningful to a certain culture.

2) In each culture, music is governed by rules for stringing together individual symbols to create a meaningful musical experience.

3) Music is a creative activity. Composers can combine the symbols in unique ways to create new musical compositions according to their needs and desires.

Further evidence that the development of music and speech may parallel one another is demonstrated by research showing they are acquired during the same period of child development. The development of perceptual shaping to comprehend the music and language of a culture begins in the first few months of a child's life and continues until the beginnings of young adulthood at approximately age twelve (Fiske, 1997; Heller & Campbell, 1982; Hargreaves, 1986).

Beginning from infancy, language and music proficiency are particularly dependent upon the aural skills of perception, discrimination and memory. "[S]kills in auditory discrimination leads to the development of expressive language in the form of singing and movement, and eventually to improvising and composing" (Zimmerman, 1982). Petzold (1963) found that the most significant development of auditory perception occurs between the ages of six and seven, a crucial time to ensure that children are receiving adequate music and language stimulation.

Acquiring language transforms the child's world, in part, by attaching verbal labels to experiences, emotions or objects; this enables the child to construct meaning. The process of acquiring language occurs in much the same way regardless of the language the child is exposed to. Research (Brown, 1975) indicates that heedless of culture and socio-economic class, children go through a similar growth process from baby talk to adult communication, and children talk about similar subject matter while progressing through developmental sequences.

The first stage of language acquisition is the pre-linguistic phase, which is the period before a child speaks his or her first word. Infants are capable of discriminating among individual sounds and by six months are able to respond to syllables or words (Trehub &

Rainovitch, 1972; Morse & Cowan, 1982; Kuhl, 1983). It appears that infants are preprogrammed to acquire the sounds of their native language and weed out those sounds that do not belong. "Only those sounds that are actually used in the language the child hears are retained" (Bee, 1992, p.182). Yet this remarkable ability to discriminate between sounds not used in the child's native language diminishes by the time a child is a year old (Werker & Tees, 1984).

At approximately two months, the infant begins babbling in response to auditory stimuli and interacting with caregivers by attempting to mimic adult voices (Zimmerman, 1982). Findings by Oller (1981) and Bates, O'Connell & Shore (1987) indicate that infant babbling takes on the intonations of the language they are hearing. In addition, all babies begin with a full range of sounds in their babbling which may not be present in the language they are exposed to, but by nine months the babbling consists of the sounds they are hearing. The non-heard sounds disappear.

Thus, even for babies, research demonstrates that auditory skills are developing to prepare a child to hear and discriminate among sounds in their environment and to begin listening for the subtle differences between music and language that will enable them to progress successfully towards literacy. The sound-to-symbol process is in its infancy.

By comparison, Gordon (1980) determined that musical aptitude is developmental and dependent upon environmental influences until the child reaches nine years of age. In his cognitive developmental theory of musical aptitude states "In order to understand music, one must be aware both descriptively and interpretively of its basic aural elements. To achieve this awareness, one must have developed a sense of tonality and a sense of meter." (Gordon, 1980, p. 2) He proposed a sequential learning theory based on audation, which is the equivalent to inner hearing, with pitch and rhythm being the essential, unifying elements in music learning. These basic audation skills prepare students for the development of music literacy skills. "Gordon's theory compares learning music to learning a spoken language, as a progression from first simply perceiving and responding to sounds to the advanced levels of problem-solving and conceptual understanding" (Campbell, 1991, p. 76).

Gordon theorized that the fundamental level of discriminative thinking begins with aural and oral experiences such as informal listening and spontaneous performances and works its way to verbal association of what one learns and performs musically to the final level of musical cognition, the association of symbols to musical patterns and the connections to the previous concepts of verbal labeling of aural and oral experience (Butler, 1992; Jordan-DeCarbo, 1986; Gordon, 1980). "The natural medium for both language and music is auditory-vocal" (Sloboda, 1985, p. 18).

Musical acquisition, like language acquisition, also begins with this aural phase. The infant begins responding to and discriminating among loudness, timbre and pitch and sorting musical from non-musical sounds (Sloboda, 1985). Chang and Trehub (1977a, 1977b) found that infants as young as five months could discriminate between two different rhythm patterns and between a familiar melody, a transposition of that melody and a new melody. They concluded that melody and rhythm were among the first schemas to develop in the infant. Eventually, infants orient towards dominant aural perceptions from their sound environment and begin to differentiate the human voice from other environmental sounds. Babies show a definite preference for their parent's voices, particularly the mother's (Zimmerman, 1982; Hargreaves, 1986).

Babbling also contains a singsong element that becomes the basis for chant and singing and is an example of following the melodic contour of speech patterns (Zimmerman, 1985; Dowling & Harwood, 1986). Babbling appears to be a necessary step in language and music development, and adults enhance this development through their interactions with the infant's attempts at sound-making.

Moog (1976, in Hargreaves, 1986) conducted research on the listening experiences of pre-school children and discovered that musical babbling occurs as a specific response to music in one-year-old children. It consists of sounds of varied pitch produced on one vowel or a few syllables. Following this musical response, the most striking development in the child's musical behavior begins after one year of age when spontaneous singing occurs in conjunction with speech.

Music acquisition, like language acquisition, progresses from the use of global processing strategies and advances from babbling, listening, and kinesthetic response to more accurate pitch and rhythmic matching (Hargreaves, 1986; Andress, 1985). Within the period from two years to approximately five years of age, children begin creating musical patterns recognizable as coherently organized songs and gain skills necessary for learning new songs (Dowling & Harwood, 1986).

Spontaneous song emerges as the child approaches two years of age. It begins with brief, repeated phrases consisting of discrete pitches and gradually moves towards incorporating rhythmic and melodic structures within these songs. The child assimilates environmental musical events into a musical schema and is then able to move on to the more difficult task of accommodating musical norms of culturally accepted music, structuring the child's future song performances (Butler, 1992; Campbell, 1991; Sloboda, 1985; Davidson, McKernon & Gardner, 1981). "[T]here seems to be agreement that early songs are not structureless or random, and that they form the basis for later songs. There is agreement that pitch control gradually develops from early floating to accurate reproduction of tonal scales via an intermediate, 'outline' stage, and that intervals gradually expand, and become filled with intermediate notes, with age" (Hargreaves, 1986, p. 78).

Davidson, McKernon & Gardner (1981) provide further insight into the development of song acquisition through their longitudinal study of nine first-born middle-class children. These children were observed from birth to five years of age for milestones in early symbolic development including music, language, dance and drawing. Between the ages of two and five, they observed that spontaneous singing and story telling share striking similarities in when they occur in a child's development. Children progress from incorporating singing and speech elements into their symbolic play to being able to repeat musical phrases and base stories on their own experiences. By the time they are five, children can accurately sing songs and remember story sequences.

These parallel observations of language and music acquisition provide further evidence that the process of learning both music and language occur during very similar developmental sequences in the child's learning progression (Dowling & Harwood, 1986).

Read together, these theories and supportive research provide a compelling argument that young children progress through developmental sequences and that language and music acquisition share similar developmental characteristics. Children are viewed as active agents in their own enculturation. From this we see children's literacy development as beginning with meaningful experiences before moving to symbolic representations. Child developmental theories have advanced educational perspectives on how children think.

PHILOSOPHICAL AND DEVELOPMENTAL THEORIES IN MUSIC AND EARLY CHILDHOOD EDUCATION

Learner-centered philosophies combined with developmental theories proposed over the last century have seriously influenced the way in which we view childhood and children's thinking. The original proponents of such viewpoints emerged in Europe and their ideas spread to North America to lay the foundation for current early childhood and music education pedagogy. Through their extensive field work with children, Jean-Jacques Rousseau (Morrow, 1997; Glazer & Burke, 1994), Swiss educator, Johann Heinrich Pestalozzi (Campbell, 1991; Gutek, 1991; Abeles, Hoffer & Klotman, 1994; Shehan, 1986), German educator, Friedrich Froebel (Glazer & Burke, 1994; Gutek, 1991), American educator, John Dewey (Abeles et al., 1994; Dewey, 1938), and Maria Montessori (Gutek, 1991; Faulmann, 1980) have profoundly shaped our current view of the teaching role.

From this learner-centered philosophy, teachers are seen as an important factor in facilitating children from dependence to independence in literacy acquisition in both music and language. Supplying a learning environment that accounts for the physical, social, emotional and intellectual needs of the child and providing social interaction with supportive adults and other children to facilitate the learning process is of utmost importance. The focus is on learning through actively participating in real experiences in meaningful and natural settings and guiding children towards independence. Most importantly, teaching children in a developmentally appropriate manner means moving from sensory to abstract experiences or from the sound to the symbol.

FOUNDATION FOR EARLY CHILDHOOD AND MUSIC SOUND-TO-SYMBOL PEDAGOGICAL PRACTICES

Current pedagogical practices in both music and early childhood education have emerged from this learner-centered philosophy. These practices focus on emergent literacy and emergent musical literacy with relation to sound-to-symbol experiences.

Early Childhood Education

In the 1980's, researchers sought to redefine literacy. The idea of reading readiness was in question. Reading readiness (Morow, 1997; Glazer & Burke, 1994; Salkind, 1990) stemmed from a maturational view that children must be taught to read by following systematic steps in a sequential order before reading could take place and certain tests would determine if a child was ready to read. The idea of how children become literate changed to view literacy as a process that begins at birth and continues throughout one's lifetime through developmental and experiential growth. The development of literacy is not precise, as the reading readiness theory purported; rather, children differ in their literacy growth based on previous experiences and exposure to a literature rich environment.

The writings of Clay (1991), Teale & Sulzby (1986), Heath (1983), Goodman and Goodman(1979) and Holdaway (1979) served as the foundation for the theory of emergent literacy leading the way to independent reading. "Emergent literacy is a social, emotional, physical and intellectual phenomenon whereby young children in a print-oriented society begin to make sense of print" (Juliebo, 1995, p.84). The role of the family and the home environment is vital to the progress of emergent literacy through communication, interaction with literature in the home, awareness of environmental print and modeling reading and writing behavior. "Parents serve as models for helping to make children's first experiences with language and print satisfying" (Glazer & Burke, 1994, p.25). From these observations of preschool children, it can be concluded that children develop literacy proficiency through sensory experiences, most importantly visual, aural and oral activities. "Long before the preschool child enters school he has learned to discriminate between vocal sounds sufficiently to differentiate words one from another. Auditory discrimination activities can aim to have children perceive likenesses and differences in non-vocal sounds, and to perceive sounds of rhymes in language games, favorite stories, poems and songs" (Clay, 1991, p. 38). Oral language is a precursor to reading and writing and ". . . knowledge of both the sound and the structure of language play very important roles in early reading" (Bee, 1992, p.331). Thus we know that children arrive in school with a considerable body of knowledge about literacy. The role of the teacher is that of facilitator, building upon children's previous knowledge.

From this contemporary view of language acquisition the constructivist theory has resurfaced. Constructivism focuses on learning by doing and experiencing. "[C]hildren first make lower-level relationships in all areas of knowledge and go on to make higher-level relationships with the ones they created earlier. . . children acquire knowledge by constructing one level after another of being wrong" (Kamii, Manning, & Manning, 1991, p. 14). Language acquisition is the most visible observation of constructivism as children learn correct forms of their language through experimentation with grammatical structures unheard in adult speech such as, "He goed downstairs.", "I see geeses" or "Daddy hat".

"Constructivists describe children as the creators of language on the basis of an innate set of rules or underlying concepts. They describe language as an active and social process" (Morrow, 1997, p.92). Thus children construct theories or hypothesis about their environment and categorize them. When these hypothesis are no longer adequate for the concepts they have absorbed, they go on to construct a more satisfactory hypothesis. This theory again reinforces the importance of providing activities that are developmentally appropriate and allow children time to experience through the senses before asking them to move on to a more abstract concept.

Based upon current theory, recommendations from the Early Childhood and Literacy Development Committee of the International Reading Association (1986) can be interpreted as constituting a framework for sound-to-symbol instructional practice in an early childhood classroom:

1) Education in sound-to-symbol process should focus on meaningful social experiences and interacting with language rather than on isolated skill development.

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2) Literacy learning should involve exploration of literacy concepts by using activities that allow for children to actively participate through experimentation with talking, listening, writing and reading in a literature rich environment.

3) Literacy learning proceeds effectively when presented in developmentally appropriate ways.

In summary, research indicates the importance of early childhood educators to adopt the sound-to-symbol theories of emergent literacy and constructivism and adapt them to pedagogical practice in the classroom. Children need to be active participants in constructing their knowledge of language and literacy. They do this through social experiences that enable them to move naturally from sensory experiences to abstract symbolic representation.

Music Education

Within music education, the idea of emergent musical literacy as the pathway to early music reading reflects the early childhood philosophy inherent in the sound-to-symbol approach. A rich musical environment during the early years has a crucial bearing upon musical literacy and development. The foundations of musicianship begin in early childhood through aural games, spontaneous song and chant, and imitation of melodies and rhythms (Abeles, Hoffer, Klotman, 1994; Serafine, 1988; Hargreaves, 1986; Simmons, 1986; Shuter-Dyson & Gabriel, 1981). "In homes where parental attitude is positive and involvement in music is extensive, music achievement is likely to occur or to advance more quickly than in homes with little or no live or recorded music" (Campbell, 1991, p. 89). Unfortunately, in North American society, many children do not receive the necessary music stimulation in the home to develop music literacy skills. The responsibility to provide a stimulating music environment is undertaken by the music teacher. "Innate musical responsiveness and musical development are nurtured best within a rich and stimulating musical environment that provides for both spontaneous and guided music making in individual and group settings. These experiences which should be at the cutting edge of the child's capabilities require the careful planning of a musical, responsive, and sympathetic teacher" (Zimmerman, 1982, p. 42).

Within North America, the philosophies of Suzuki, Kodály and Orff have been instrumental in establishing the sound-to-symbol process in elementary music education. For the purpose of this thesis, instructional approaches stemming from the philosophies of Orff and Kodály will be the focus as these are the predominant methods used in North American elementary school systems. Their philosophy stems from the educational approach of Emile Jaques-Dalcroze. (1930)

Jaques-Dalcroze (Choksy, 1997; Montgomery, 1993; Hoge Mead, 1986) proposed that learning to read and write music begins after students have sufficient sensory experiences with musical concepts and developed movement activities to promote these sensory experiences. Before formal notation, he prescribed reading techniques of mapping a melody's rise and fall through line drawings and notating rhythm patterns in dashes and dots to illustrate duration. This sound-to-symbol learning process led Kodály and Orff to investigate and aspire to the teaching approaches commonly known today as the Kodály approach and the Orff approach.

These two instructional approaches recommend a sound-to-symbol teaching process that offer students a rich and prolonged period of aural experiences prior to the reading and writing of music (Campbell, 1991). Both suggest beginning instruction from where the child is and recommend developmentally appropriate, learner-centered repertoire such as folk songs and nursery rhymes. Teaching strategies from both approaches promote joyous music-making through multi-sensory activities; singing, moving, listening and playing (Montgomery, 1993). Both embrace the sound-to-symbol process and a sequential approach for developing musical concepts. Three principles similar to early childhood education guide current sound-to-symbol instructional practice in music education (Montgomery, 1997; Zimmerman, 1991):

1) Music learning should proceed in a sound-to-symbol process focusing on meaningful music-making experiences rather than on isolated skill development.

2) Music learning should involve exploration of musical concepts such as beat, rhythm and melody, and musical skills such as singing, clapping and playing in a music rich environment.

3) Music learning proceeds most effectively when the content and skills utilized are sequenced in an easy to complex learning order to compliment students' developmental level.

Sound-to-Symbol Research in Early Childhood Education

Within the context of emergent literacy, the understanding of the structure of spoken and written language is crucial to children's literacy development. This is the sound process before formal introduction of the alphabetic symbol system and is termed phonological awareness. Phonological awareness is the ability to reflect on and analyze the phonological or sound structure of the spoken language. As emergent readers and writers begin exploring spoken language, they develop an awareness of the words, syllables, rhymes, and sounds in language (Fox, 1996; Torgesen, Wagner & Rashotte, 1994; Treiman, 1991; Tumner & Rohl, 1991). "Children who are phonologically aware can (1) separate spoken language into words, syllables, rhymes, and sounds, and (2) blend sounds together to pronounce words. These learners deliberately arrange, rearrange, add, and delete language segments. . . Phonological awareness develops sequentially, beginning with word awareness, then progressing to rhyme awareness, and finally to sound awareness" (Fox, 1996, p. 16 & 21).

Some aspects of phonological awareness seem to be acquired more easily than others, such as word, rhyme and syllable awareness, and do not necessarily require specific literacy intervention. Maclean, Bryant and Bradley (1987, p. 280) determined that "adults play a direct role in fostering the growth of phonological awareness in children with the help of informal linguistic routines. Nursery rhymes are one example of the informal way in which parents, for the most part unwittingly, draw their children's attention to the fact that words have separable component sounds." They concluded from their fifteen month study of three year olds that knowledge of nursery rhymes was related to children's ability to detect rhyme after a year and was also related to beginning word reading. Studies consistently demonstrate that children who lack awareness that words can rhyme or begin and end with the same sound segments and that words are composed of syllables or phonemes are at risk for difficulties in learning to read and write (Blanchman, 1991; Adams, 1990; Lundberg, Frost & Petersen, 1988; Bradley & Bryant, 1985).

Bradley and Bryant (1985, 1983) conducted a large-scale, longitudinal study on the relationship between phonological awareness and reading acquisition. Sixty-five six year old children were trained over two years in specific phonological tasks. Group one learned to categorize words on the basis of common sounds, such as rhymes; *hen, men* and *pen*, onsets; *hen, hat* and *hill*, final sounds; *hen, sun* and *pin*, and middle sounds; *hen, leg* and *net*. The second group were given training in word categorization of common sounds, but were also taught to represent these sounds with plastic letters. This allowed them to see and manipulate the changes in the words. The third group received training in categorizing words according to semantics or meaning. Thus, hen would be categorized with dog as they are both animals. The fourth group received no training.

After forty individual lessons over a two year period, it could be demonstrated that the training had a positive effect on reading acquisition and that the children who were most successful in reading and spelling were the children who categorized words by common sounds and represented those sounds with letters. A follow up study after four years found that this group of children continued to be the most successful in reading and spelling.

Lundberg, Frost and Petersen (1988) continued this line of research to determine if the results would remain positive if children were given phonological awareness training before formal reading instruction began. They developed a training program consisting of metalinguistic games and activities to encourage preschool children to attend to the phonological structure of language. The sample of 235 children received training sessions daily for eight months and received no formal reading instruction prior to or during the sessions. In addition, the authors assessed the effects of the training on the children's acquisition of reading and spelling in grades one and two.

They found that phonological awareness can be developed before reading instruction and that it did indeed facilitate reading and spelling acquisition. Rhyme, word and syllable awareness, although important to reading and spelling, appeared to be less dependent on formal training. They determined that rhyming requires a less conscious manipulation of phonemes; rather, it is sensitivity to sound similarity that determines success in solving rhyming tasks. An understanding of words and syllables was also less dependent on formal training. Thus, they resolved that syllables and words were simpler to understand as they were heard naturally through speech.

However, the results were dramatic on phonemic tasks. The experimental group benefited greatly from the training program and the effect of this training remained throughout grade one and two. The experimenters concluded that it was possible and desirable to develop phonological awareness prior to formal reading instruction through specific training with the emphasis on acquiring phonemic awareness skills.

Following up on previous studies, Bryant, Maclean, Bradley and Crossland (1990) (Bradley et al. 1985; 1983) state there is distinct development in children's phonological skills that corresponds with age. Further, there is a definite relationship between children's ability to detect syllables, rhymes and phonemes and success in reading and spelling. "[P]roperly controlled studies of children with reading difficulties have established that many - although by no means all - of them are strikingly insensitive to rhyme and to letter-sound associations" (p. 429). Analysis of these longitudinal studies carried over a four year time span concluded that rhyme and alliteration are developmental precursors to phonemic awareness. In addition, they determined that rhyme sensitivity assists reading, independent of phonemic awareness, by helping children group words with similar spelling patterns, concluding that rhyming skills are an important step in developing phonemic awareness and also provide additional skills for successful acquisition of reading and spelling.

Studies by Ball and Blanchman (1991, 1988) evaluated the effects of phonological awareness training on kindergarten children. Ninety children were divided into three groups. The treatment group received phoneme segmentation activities and letter sound associations. The first control group also learned letter sound associations in the same manner as the treatment group, but received no phoneme segmentation instruction. The second control group did not receive any intervention. The treatment group and control group one had 15 to 20 minute sessions daily for seven weeks with a trained teacher.

Both treatment and control group one outperformed control group two in letter sound association tasks, but the treatment group still significantly exceeded the control groups in phoneme segmentation, reading and spelling tasks. Ball and Blanchman concluded that phonemic awareness training combined with letter sound knowledge has a positive effect on beginning reading and spelling. In addition, this training occurred in groups rather than individually and was still effective.

As a follow up, Ball and Blanchman provided this training to kindergarten teachers and program assistants to use with children in their classroom. From this study it was determined that kindergarten teachers and their assistants could effectively provide activities that enhanced phonological awareness within the regular classroom instruction, as the treatment children significantly outperformed the control children in phoneme segmentation, reading and spelling.

Such studies suggest that phonological awareness plays a direct role in the development of reading skills. The ability to detect syllables and rhyme appears to be the first step in beginning reading and can be acquired indirectly at an early age, but it is the awareness of phonemes that has a substantial impact on a child's ability to read and spell, especially when connections are made between the sound segments of the word and the letters representing those segments. Thus, sound-to-symbol is important as a precursor to independent reading with awareness of rhymes, syllables and words leading to awareness in phonemes and letter-sound correspondences.

Phonemic Awareness

Phonemic awareness is an understanding of the internal structure of the sounds of spoken language. "Phonemes are the units encoded by the letters of the alphabetic languages used throughout the modern world. For children to learn to read and write they need to learn how spoken language maps onto written language, and phonemic awareness helps them grasp this understanding" (Eldredge, 1995, p. 27). As a predictor of later reading success, research indicates that phonemic awareness is an important sound-to-symbol teaching practice in early childhood (Treiman, 1991; Lundberg, Frost & Petersen, 1988; Tumner & Nesdale, 1985). Jaeger Adams (1990) states that "The discovery and documentation of the importance of phonemic awareness is the single most powerful advance in the science and pedagogy of reading this century."

Griffith, Klesius and Kromrey (1992) examined the acquisition of spelling skills and writing ability in first grade children with various levels of phonemic awareness and the method of instruction used, to determine if it affects phonemic awareness development. Two grade one classrooms were examined. In the first classroom the children were taught using whole language methods such as shared book experiences, choral reading and daily writing activities. Phonics instruction and skill application occurred indirectly through writing and reading activities. In the second classroom, a more traditional approach using basal readers, direct phonics instruction and specific letter sound correspondences were the predominant methods of instruction. Writing opportunities were limited to worksheets. Pre-testing to determine phonemic awareness skills was conducted in September and post-testing to determine effect was completed in May.

The results indicated that beginning year level of phonemic awareness was more important than method of instruction in grade one student's ability to read and spell. Those who were high in phonemic awareness at the beginning of the year showed considerable progress and those who were low in phonemic awareness remained at a lower level of achievement. However, there was a difference in spelling achievement. Children in the whole language classroom already high in phonemic awareness were better at spelling unpredictable words than their counterparts in the traditional classroom. This was supported by Adams' (1990) report that invented spelling assists in developing phonemic awareness and understanding of the letter-sound correspondence.

Most importantly, this study suggests that regardless of classroom instruction, phonemic awareness is a highly significant factor in beginning to read. This study supports the recommendations of previous researchers to provide specific training in phonemic awareness skills to children with low phonemic awareness (Blanchman, 1991; Lundberg, Frost & Petersen, 1988; Lundberg et al., 1988; Bradley & Bryant, 1985).

Studies consistently demonstrate that children can successfully be guided to learn phonemic awareness (Torgesen et al., 1994; Yopp, 1992; Griffith & Olson, 1992; Ball & Blanchman, 1991). Many reading experts are encouraging classroom teachers to provide their students with "linguistic stimulation above and beyond speaking and listening during the preschool years: storytelling, word games, rhymes, riddles, and the like" (Mattingly, 1984, p. 24). Word play may be encouraged in stories, songs, and games and should include components which involve comparison of words on the basis of specific phonemes, identifying the position of phonemes within words, or pronunciation of individual phonemes within words. In general, instructional programs which emphasize the conceptual or metalevel rather than procedural knowledge provide a stronger base for the retention and transfer of phonemic awareness.

Yopp (1995, 1992) has done extensive research in the development of phonemic awareness in children. For many children, additional understanding of phonemic awareness is necessary to progress from emergent literacy to independent reading. She concluded that "The objective of any phonemic awareness activity should be to facilitate children's ability to perceive that their speech is made up of a series of sounds" (p. 699). She developed phonemic awareness activities that are developmentally appropriate, playful and game-like in order to actively engage children in this learning process. The framework for these activities include:

1) Sound matching activities (identify which words begin with a particular sound)

2) Sound isolation activities (identify sounds at the beginning, middle or end of a word)

3) Blending activities (manipulation of individual sounds by combining them to form a word)

4) Sound addition or substitution activities (adding or substituting a sound in a word)

5) Segmenting activities (breaking a word into its individual sounds)

In addition, the National Association for the Education of Young Children (1986) provides recommendations for teaching phonemic awareness to young children based on developmentally appropriate practice (Yopp, 1992):

1) The experiences should be fun, playful and develop positive feelings about learning.

2) The activities should occur in a group setting and encourage social interaction among children, as children learn from one another.

3) Children's attempts at manipulating language should be encouraged and responded to positively and enthusiastically.

4) Research in phonemic awareness reveals tremendous diversity in children's ability. Teacher's should allow and prepare for individual differences.

5) The activities should not be used to make rigid judgments about individual children, rather, the activities should be fun and informal.

6) An emphasis can be on either words or letters as there is evidence that attaching visual symbols to the language sounds results in increased ability in reading and spelling.

Yopp, (1992) field tested a series of activities based on the above framework. Based on both anecdotal accounts and experimental research, her research team noted that children enthusiastically responded to the activities and developed significant gains in phonemic awareness after as little as fifteen to twenty minutes of daily sessions over a two week period.

The body of research on phonological and phonemic awareness has grown to include practical suggestions and ideas for teachers to use within their classroom. There are numerous pedagogical manuals dealing with games, songs, rhymes, and literature activities for use by early childhood teachers to build phonological skills in their students (Griffith & Olson, 1992). The emphasis is upon building emergent reading and writing activities and the strategies teachers can implement to facilitate literacy development in their classroom.

Given this research, there is a solid case for early childhood teachers to include phonological awareness activities as part of their daily classroom routine as this appears to be a powerful way for teachers to facilitate progression in understanding sound-to-symbol relationships and pave the way to success in reading and writing for their young students.

Sound-to-Symbol Research in Music Education

Just as research has determined that phonological awareness is an important factor in emergent literacy, the same could hold true in music. Theories comparing the structure of language and music, describe music, like language, as consisting of phonemes (Dunbar-Hall, 1991; Sloboda, 1985; Pincas, 1970). Sloboda (1985, 1977, 1976) describes the basic 'phoneme' of music as being a note. "Like a phoneme a note is characterized by frequency and duration parameters. Within a particular music culture, all music is composed from a small set of these notes, chosen from an indefinitely large set of possibilities" (p. 24).

Like Sloboda, linguist Pincas (1970) refers to 'notemes' as being the musical equivalent of phonemes in language. Notemes constitute a succession of notes or notes produced simultaneously to create a musical word. Similar elements of phonemes and notemes are that both demonstrate qualities of duration, dynamics, rise and fall of pitch contours and stress or accent. Pitch and rhythm in music correlate with sound frequency and duration in speech (Fiske, 1997; Sloboda, 1985). These attributes in speech are the components that constitute our auditory processing of phonemic units.

Monroe (1967) relates music and language reading by comparing phonological activities in reading acquisition with similar practices in music. In learning to read students are asked to:

1) look for familiar parts of words within words
2) discover words that begin or end alike
3) divide words into parts

In learning to read music students are asked to:

1) look for tonal and rhythmic patterns within larger groupings.
2) discover tonal or rhythmic patterns which begin on the same pitch or have the same note value.
3) divide intervals into scale tones.

Most importantly, these theories support the importance of developing the sound before introducing the symbol system. Therefore, a musical equivalent to phonological awareness, as in language, would develop awareness of sound through activities that lead to an understanding of the symbol.

In her doctoral dissertation, Stern (1972) discusses the application of language reading skills to the teaching of music reading. She proposes the assumptions that music and language are related by common usage and that music reading relates to language reading and therefore may be taught using similar methods. She developed a music reading guide based on the sound-to-symbol premise and piloted her guide in an elementary school with students from kindergarten to grade six. In this qualitative study she observed "...that the students gained an awareness of the function of certain symbols, of the relationship between words and rhythm, of the idea that music has form" (p. 81). From this, she suggests that relating instruction in music reading to language reading may allow the influence of one discipline upon another, thereby increasing the possibility of teaching for lateral transfer.

Since this study was published, research and teaching methodology in literacy acquisition has developed considerably in both music and language. However, this study contributes to the relatively small body of research comparing reading in music to reading in language and provides a supplementary look at practical application of pedagogy.

Although research is scarce in formulating a link between music and language literacy development, there is a considerable body of research devoted to the teaching of music literacy. Recent studies focusing on the development of music literacy conclude that teaching music in a sound-to-symbol process is important to assist students in gaining musical literacy skills (Persellin, 1992; Martin, 1991; Sims, 1991).

Within musical literacy investigation comes forth the theory that we first learn music aurally in chunks or patterns rather than note by note. Rather than learning individual note values, investigators propose we learn combinations of two to five tonal or rhythmic sounds which could be equivalent to a "rhythmic" or "tonal" word. We then take it to a metacognitive level which allows us to label and talk about these abstract entities. "Gradually, we are able to aurally recognize familiar sound patterns in songs, to learn the visual symbols that represent these sounds, and, lastly, to interpret the symbols into sounds through performance of written musical notation" (Jordan-DeCarbo, 1986; p. 39).

A growing number of studies looking at whether the perception of tonal patterns is more effective for music reading comprehension than the perception of individual pitches, have possible correlations with studies in early literacy and phonological awareness. Investigators in the field of music literacy (Hahn, 1987; Cuddy, 1982; Deutsch, 1972, 1970; Petzold, 1963) appear to suggest that ". . . music students must be guided in conceiving sound through the ear. Emphasis must be placed on the relationship of sound with musical symbol and physical action rather than emphasizing symbol with physical action alone. They support the need to associate aural imagery with notation and the need to build an aural vocabulary of tonal patterns before introducing notation" (Grutzmacher, 1987; p. 172).

Petzold (1963) conducted several studies to determine if music reading skills could be developed by learning a 'vocabulary' of tonal patterns, or configurations outside of song context, and apply them to new situations. His study consisted of two phases.

Phase I of the study involved analyzing 326 songs collected from basic song texts used in the music program and identifying common tonal patterns which could be used to construct the initial test. Selection of subjects in grades four, five and six from three elementary schools were administered this test to establish learning techniques appropriate to phase II of the study. The test was given individually using the following procedure; subjects were presented with notation and a starting note and asked to sing a response to the notation. A recording of the correct response was played while the subject continued to look at the notation. The subject was then asked to sing back what was heard. A total of ten items were presented for each test.

In phase II, the subjects consisted of grade four and six students, with one group being musically gifted and the other possessing average musical ability. A rating scale was derived to categorize students as gifted or average. These students were administered one of two tests. Test A consisted of the subject learning five tonal configurations and then learning a song based on the five separate configurations. Test B consisted of the subject attempting to learn a song and then learning the five tonal configurations presented in the song.

Petzold's conclusions show that prior practice on tonal configurations enabled students to learn the song more effectively. "The fact that the song is usually approached as a complete entity . . . makes it difficult for children to then recognize the individual elements of the song when they are isolated" (p. 319). He suggests that greater emphasis be placed on assisting children to recognize the shape and design of tonal configurations when learning to read music notation.

He states that the "relationship between auditory and visual perception needs to be more clearly established. Music educators recognize the interdependence of the two, but the degree to which one depends on the other needs to be identified. Many reading errors made in this study were caused by the subject's inability to 'hear internally' what the stimulus should sound like and, consequently, were unable to control the voice" (p. 319). This parallels the theory of sound-to-symbol with development of the auditory or 'inner voice' as the precursor to visual symbols.

Hahn (1987), designed a study to compare growth in music reading skills of nine elementary string class students. One group was taught to read notes in isolation in contrast with a group taught to focus on notational patterns or units, proceeding from the whole to the individual parts of a musical score. The students trained in the whole to part method learned to perceive melodic contours and rhythmic patterns and to predict likely continuations of these patterns. Both groups were first prepared through identical early reading activities such as rote singing, exploration of the instruments and pitch and rhythm games.

After administering music reading post-tests, the results indicated that ". . . students trained in [whole to part] strategies were better able to read both familiar and unfamiliar music notation. The music-reading strategies are roughly equivalent to those of readers of a language who sample semantic units from a text and predict continuations, as opposed to readers who read one word at a time" (p.47).

In her study, Grutzmacher (1987) concurs with the premise that the perception of tonal patterns is more efficient for music reading comprehension than the perception of individual pitches and that this process of audation (Gordon, 1980) is best developed through singing. The purpose of the study was to investigate grade five and six student's ability to learn tonal patterns on brass or wind instruments using harmonization and vocalization in conjunction with sight reading. The experimental group received instruction in 10 major and 10 minor tonal patterns with harmonization and vocalization as teaching techniques before notation was presented while the control group used single-note identification taught directly from notation.

Her results indicate that the experimental group performed significantly higher in melodic sight reading than the control group, suggesting that instruction presenting tonal patterns with harmonization and vocalization activities improves the sight-reading skills of beginning band students considerably more than the traditional method of identifying individual notes without auditory and vocal activities.

In addition, it appears that the teaching procedures used with the experimental group promoted improvement in the ability to correctly compare aural tonal patterns with visual tonal patterns. She infers this may be due to the experimental group utilizing a balanced combination of aural-visual perception skills which may have contributed to their higher measure of sight-reading skills.

From the above studies, it appears that not only are there possible links between literacy in music and language, but that music does indeed have an equivalent to phonological awareness based on tonal patterns within melodies. The term musical phonological awareness could be used as the equivalent to phonological awareness in language and defined as a conscious awareness that music can be subdivided into a sequence of sounds. These sounds are defined as notes and are characterized by sound frequency (pitch) and duration (rhythm). Children who possess musical phonological awareness would have an aural understanding of notes, intervals and phrases and could deliberately arrange, rearrange, blend, add and delete notes within musical intervals, chords or phrases. It appears an aural understanding of tonal patterns contributes extensively to the notational reading of tonal patterns and that generalizations can then be made from one tonal pattern to another and from song to song.

Connections to Language Literacy

Campbell (1991) has proposed music activities which encourage aural awareness and could be considered equivalent to phonological awareness activities:

1) Aural listening activities (to develop familiarity with melodic patterns and structure of musical style)

2) Imitating patterns (to develop aural skills and memory in copying rhythmic patterns and pitch matching)

3) Name that tune (to develop aural skills and improvisation by isolating a segment of a rhythm or melodic phrase of a familiar song and having students identify it)

4) Patterns in hiding (to discover songs that have familiar patterns in rhythm or melody)

5) Question and Answer (A rhythmic or melodic question is posed and the child responds. The child must be aware of the components of rhythm and melody to respond appropriately.)

In music education, numerous activities, games and songs have been developed and collected to promote sound-to-symbol musical literacy development. Many of these activities can be equated with similar activities in language literacy development and relate specifically to phonological awareness. To date, studies have not been conducted to prove or disprove this theory of musical phonological awareness. It is the assumption of this thesis, based on the literature review, that musical phonological awareness does exist and may provide the key to developing music literacy in young children.

Summary

Similarities abound in music and language, and are especially prominent when comparing emergent literacy practices. Both music and language require exposure to and comprehension of concepts in a holistic setting (i.e. stories/ songs) before reducing them to their component parts (i.e. words/ tonal patterns). These concepts are then made conscious and practiced within a meaningful context of music or language. This is a basic assumption in both music pedagogy and language theory.

Research done in the area of reading and writing (Clay, 1991; Graves, 1983; Goodman & Goodman, 1979) suggests that humans are constantly striving to communicate and to make sense of the world, therefore it is necessary that learning to read and write be done in the context of meaningful units (i.e. stories/ songs) rather than in isolation (i.e. letters/ tonal phrases). Children need to become fluent in their ability to use speech and singing and be able to use them independently before they can imitate and understand an abstract symbol system. Both music and early childhood pedagogical practices emphasize that concepts must be introduced at a subconscious level through many examples before they are actually presented consciously. This is the premise behind sound-to-symbol.

From the literature framework it is apparent that phonological awareness and musical phonological awareness play an important role in developing literacy skills in language and music, and can be accommodated in learner-centered, developmentally appropriate activities. But the paucity of research in the area of teacher practice in music and early childhood education needs to be addressed. What sound-to-symbol practices are music specialists and early childhood teachers employing in their classrooms? Which activities specifically promote musical phonological awareness and how are they related to phonological awareness? Are there similarities in practice between music and early childhood educators? This study will seek to address these questions.

CHAPTER 3

RESEARCH DESIGN AND PROCEDURES

Overview

This chapter presents a description of the research design and procedures used in this study. This study is qualitative in nature. The assumptions and rationale, followed by design of the study, my role as the researcher, data collection procedures and data recording procedures will be discussed.

Assumptions and Rationale

This study is rooted in the qualitative paradigm. The intent of qualitative research is to understand a process rather than particular outcomes or products (Bogden & Biklen, 1992). It is an investigative approach carried out in a natural setting, with people involved as the direct source of data. The researcher is the key instrument to collect and interpret the data through means of abstractions, concepts, hypotheses and theories developed as the research evolves and themes or patterns emerge (Creswell, 1994; Bogden & Biklen, 1992; Firestone, 1987).

Numerous unique characteristics separate qualitative and quantitative research and are based in commonly articulated assumptions (Creswell, 1994; Alvermann, O'Brien, & Dillon, 1996; Firestone, 1987; Merriam, 1988).

1. Qualitative research is concerned with process rather than product. How things occur is of particular importance.

2. The researcher is the primary instrument for data collection and analysis rather than mechanical instruments.

3. Qualitative research often involves fieldwork where the researcher physically goes to the site to observe and record behavior in its natural setting.

4. Data that emerges is reported primarily in words rather than numerical statistics and is descriptive in nature. Truthfulness is critical to qualitative research and is verified through the subject's interpretation and perspective. Data are not quantifiable in the traditional sense.

5. Analysis of data is inductive in that the researcher seeks to formulate abstractions, concepts, hypothesis and theories from the data.

Morse (1991) suggests qualitative research is appropriate to explore a topic when "the concept is 'immature' due to a conspicuous lack of theory and previous research . . . [when] a need exists to explore and describe the phenomena and to develop theory; or the nature of the phenomenon may not be suited to quantitative measures" (p.120).

In reviewing the purpose of this study, it was my opinion that the topic "Sound-to-Symbol Pedagogical Practices" would be best explored through an inductive qualitative study to determine if beliefs and theories emerging from the literature review are mirrored in actual practice. In addition, results might determine if this study warrants further consideration and if variables may appear that merit future quantitative measurement.

Design of the Study

My design utilized a multi-site case study based in the social science research tradition. This design involved using the method of modified analytic induction which is oriented toward developing theory and requires more than two or three sites and subjects. "The procedure of analytic induction is employed when some specific problem, question, or issue becomes the focus of research. Data are collected and analyzed to develop a descriptive model that encompasses all cases of the phenomena. The procedure has been used extensively in open-ended interviewing, but it can be used with participant observation and documented analysis as well" (Bogden & Biklen, 1992; p. 70). Many researchers limit their study to tightly defining their site and subjects to those their theory specifically encompasses. In addition, time factors may determine the number of subjects and sites visited.

The Role of the Researcher

In qualitative research, the role of the researcher as the primary instrument for data collection and analysis necessitates the identification of the researcher's biases, values and judgments. The researcher's contribution to the study setting is considered positive and useful rather than detrimental (Locke, Spirduso, & Silverman, 1987). My perceptions of sound-to-symbol practices have been shaped by my personal experiences and educational background.

I received my bachelor of education degree with a focus in fine arts and a graduate diploma in early childhood education. From 1988 to the present I have been employed with a large school board in a major city in western Canada. Throughout my teaching career I have had the opportunity to teach early childhood kindergarten and grade one classes and music to students in grades kindergarten to six. I have completed a masters level in the Orff approach to teaching music, and have taken course-work in the Kodály method for early childhood. In addition to being closely involved with young children in music and early childhood education, I have presented many inservices and sessions for teachers and preservice teachers at conferences and conventions. In 1995 I had the honor of receiving a "Provincial Excellence in Teaching" award for my work with a grade one class. Within the context of my teaching experiences, I have been intrigued by the many connections I have observed between language and music literacy and wished to pursue this concept further.

I believe that my understanding and personal experiences in the context and role of both the early childhood classroom teacher and the music specialist enhances my awareness, knowledge and sensitivity to the subject of literacy and musical literacy. I brought knowledge of both music and language literacy, how students learn and how teachers teach into this study. Particular attention was paid to exemplary teacher's perception of their experiences in teaching literacy/musical literacy to their students.

Due to my previous and current teaching experiences I brought certain biases to this study. Every effort was made to identify how these biases shaped the way I viewed and interpreted the data I collected. I began this study with the perspective that the teaching of music and language literacy to young children may be approached in many diverse and unique ways. Teachers may not be aware of strategies and theories they were using to promote literacy in their students and were relying on instinct, intuition and experience to assist their judgment. I viewed the early childhood teachers as having a more grounded knowledge of theory influencing their practice and more specific literacy strategies to use with children than the music specialists.

Data Collection Procedures

Study Sample

In the analytic induction design, the method of sampling is a purposive sample . Subjects are chosen because they are believed to enhance and facilitate the developing theory (Neuman, 1994; Bogden & Biklen, 1992). My study sample of three music specialists and three early childhood teachers within the city area was a purposive sample selected for the interview/ observation process on the basis of recommendation by leading experts in the field. For exemplary music teachers, recommendations were gathered from music consultants, University professors specializing in Orff and Kodály methodologies and school principals. Of the music specialists selected;

- Teacher A had her master level in the Orff approach as well as an early childhood degree
- Teacher B had completed the Kodály graduate diploma program
- Teacher C had both the Kodály graduate diploma and a master level in Orff.

Each teacher selected held a teaching position in an elementary school, worked with grade one students and held a bachelor of education degree with a focus in music or reading. As the Orff and Kodály instructional approaches are the predominant pedagogical practices of music specialists within this city and surrounding area schools, the participants were chosen to allow for differences in pedagogical stance and methodology.

The exemplary grade one teachers were recommended by a Reading Recovery consultant, early childhood consultants, a University professor specializing in emergent literacy and school principals. Each of the early childhood teachers selected had training in the Marie Clay Reading Recovery program (Clay, 1991) and were currently grade one teachers and reading recovery specialists in their schools. As reading recovery specialists, they spent part of their day working one-on-one with individual children in grades one or two who were identified as having reading difficulties. As early childhood teachers, they all taught the language arts component of the grade one program. Reading recovery teachers were selected as it was felt they would be aware of specific strategies to develop phonological awareness in their students.

Setting

Each participant was observed within her school setting. As each school setting varied as to socio-economic area, type of student population, and music and language experiences in school and in the home, it was felt by both the teachers and myself that the school setting influenced the manner in which music and reading literacy was presented to the students. A description of each school follows.

Music:

Site A - Teacher A:

Teacher A taught full-time music and some art classes at this school. Many students attending the school were bused in from outlying areas to take part in the French and Ukrainian language programs offered here. The remaining population were from the surrounding middle income neighborhood. Parent involvement was high and expectations for music included extra-curricular Orff ensemble and choir, as well as a winter and spring concert.

Site B - Teacher B:

Teacher B taught full-time music at this new upper-middle income neighborhood school. Kindergarten to grade five attend this elementary school with grade six being part of the Junior High program. Parent involvement was high and expectations for music included various choirs and their performance at winter and spring choral concerts and festivals. The principal had Kodály training and highly valued and supported musicianship skills and the music program.

Site C - Teacher C:

Teacher C taught music part-time at this school and part-time at a nearby school. This elementary-Junior High school was renowned for its academic programming and there was a waiting list of students wishing to attend. Parents were very concerned with academic achievement. Most students attending came from an upper socio-economic environment and many also took private music lessons outside of school. Extra-curricular expectations included a winter and spring performance and a choir.

Early Childhood:

Site D - Teacher D:

Teacher D worked with a grade one class at one school in the mornings teaching language arts and math, and was a Reading Recovery specialist at another school in the afternoons. The school in which she taught grade one was the site for observation. This school provided Mandarin language immersion in the afternoons and English instruction in the mornings. Many of the students were bused in to attend the Mandarin program, and for many of these students, English was a second language. The neighborhood was a lower socio-economic area and somewhat transient. A home reading program was initiated, but not all students read at home with their parents. Thus, the emergent literacy process was in the beginning stages for these students and the majority had not yet begun to read independently.

Site E - Teacher E:

Teacher E taught math and language arts to a grade one class in the mornings, and was the Reading Recovery specialist at the school in the afternoons. The school was in an upper socio-economic area and close to the University. Many of the professors and students send their children to this school and highly valued education and academic achievement. Most of the students were reading in kindergarten and were very independent learners. Parent volunteers were involved in reading with individual children daily, and a home reading program was participated in by 100% of the children. The teacher focused on the continuing development of reading skills and independent work habits.

Site F - Teacher F:

Teacher F taught a grade one class in the mornings and part of the afternoon and was the Reading Recovery specialist in the school for the remaining time. The school had a fine arts focus and students received additional training with specialists in visual arts, music, dance and drama. The majority of the students were bused in from middle to upper class neighborhoods with the remaining students attending from the immediate community. The school was situated in a mixed community of lower to middle income homes. Parent volunteers frequently assisted in the classroom with reading and writing activities. A home reading program was participated in by the majority of the students. A few of the students were able to read upon commencing grade one, but the majority were in the beginning literacy stages.

Methodology

Data was collected in three ways: a) observations, b) interviews and c) research journal.

a) Interviews

Initial contact was made with each teacher and those selected were required to give appropriate written permission before proceeding. To reduce the threat of mortality, a back up in each area was established. Although an attempt was made to reduce gender bias this did not affect the purpose of the study. Interviews were conducted individually with the participants during the beginning of the school term at a site chosen by the participant. This was done to ensure participants felt comfortable and were not inconvenienced by the interview location.

I felt that the time prior to the beginning of the school year would be less stressful for the participants as students had not yet arrived back to school and teachers were excited and motivated to begin formulating their plans for the year. Thus, late August was chosen for the interviews.

The interviews were semi-structured to allow for comparable information to be gathered simultaneously from each of the participants and enabled me to respond to the view of the participant and any relevant information that went beyond the scope of the pre-determined questions (Seidman, 1991, Merriam, 1988). Teachers were asked questions to elicit responses about their practices in sound-to-symbol processes and the relation to musical phonological awareness/ phonological awareness (Appendix A). These interviews were audio taped and transcribed with the permission of the participant.

The research questions were piloted prior to interviewing the actual participants. The pilot sample was selected from a list of music and early childhood experts. One music specialist and one early childhood teacher were interviewed. Interview questions were then modified to focus upon the desired information.

As the interview process provided indirect information filtered through the views of the participants, follow-up observations were scheduled to allow myself to observe direct information as it occurred in the classroom and to validate the interview information (Creswell, 1994).

b) Observation

The three music specialists and three early childhood teachers participating in the interview process were also observed in their classrooms. The participants were observed twice during class time for approximately 90 minutes per session during the beginning of the school year (September/October) in order to gather data that reflected teaching practice in the area of language literacy/ musical literacy. My role was that of an observer looking for activities and strategies in the teaching of the sound-to-symbol process and how they related to musical phonological awareness/ phonological awareness. Data was gathered through field notes. The teachers were informed of the research objectives and many planned lessons they felt would best demonstrate the skills of phonological awareness in both music and language literacy. At no time were children part of the data collected. The purpose was to look at teacher practice.

Data gathered from these observations and interviews was transcribed as soon as possible and a copy provided to the participants to review, confirm and revise. This data was then analyzed for emerging patterns that related to the initial questions and the literature review.

c) Research Journal

Throughout the data collection I kept a research journal to record perceptions about the process, participants and observations. Reflections, new ideas and insights were recorded to facilitate the research process.

Data collected through observations, interviews and a research journal were verified by triangulation of three types of data collection thus avoiding mono-operational bias. Truthfulness of data was verified by receiving member checks from each of the informants as to accuracy of interviews and observations. Subjects were sent copies of the transcripts and asked to clarify and add to any of the information.

Data was reduced by coding and categorizing the material and then interpreting and analyzing information in each category to form a unique rendering of the information. Working from detail in the data, general themes and patterns were developed and compared and contrasted with the research questions and proposed theory of sound-to-symbol process and phonological awareness in music and early childhood.

CHAPTER 4

DATA ANALYSIS

Overview

This chapter presents a description of data analysis procedures used in this study and introduces the research findings. The process utilized in data reduction and interpretation will be discussed. This will lead to analysis of the data and findings related to the research questions.

Data Reduction and Interpretation

The nature of qualitative research requires the researcher to take data gathered and reduce it to patterns and categories. This information is then interpreted by the researcher and refined to present a collective picture of the patterns and categories discovered (Creswell, 1994; Tesch, 1990). With case study research, the dominant mode of data analysis involves the researcher searching for patterns by comparing data with patterns predicted from theory and the literature review. Probable or rival explanations are then explored to assist in building an explanation from the data (Creswell, 1994).

Upon completion of the observations and interviews, data in this study was immediately transcribed from field notes and audio recordings. Next, coding categories were used to sort data into manageable chunks and to find themes or patterns. The following coding categories outlined in Bogdan & Biklen (1992, p.167 - 172) provided the framework for data analysis:

Definition of the Situation Codes:

Data in this category related to how the subjects defined and perceived themselves as teachers in relation to their classroom. What was important to them, and what did they wish to accomplish in their jobs was also considered.

Strategy Codes:

These were teaching strategies and other conscious ways the subjects accomplished various things such as the teaching of reading skills to young children.

Setting codes:

Data in this category related to general statements describing the subject and setting such as classroom set up and school information.

Perspectives held by subjects:

These were codes oriented towards ways of thinking and shared norms, rules and general points of view such as how children learned to read.

Activity Codes:

Regularly occurring activities that are a formal part of the setting, such as classroom and school routines, fell into this category.

Event Codes:

These were specific activities that occurred in the lives or setting of the subjects. They could be particular happenings that occur infrequently or only once. Events such as student success stories or a memorable teaching moment were included in this category.

Process Codes:

Data included sequences of events such as the school year and daily routines, changes over time, and stages in the career of a teacher.

Relationship Codes:

This included information about relationships between the subjects and parents, other teachers, principals, students and role models.

Once data had been coded and sorted, themes were searched for within the largest collection of information, strategy codes. As the research questions focused on teacher practice in the sound-to-symbol process, the majority of information was based on teaching strategies. Data were further reduced to music teaching practices and language teaching practices. From this, data were organized into themes of musical phonological awareness strategies and phonological awareness strategies used to develop emergent literacy skills, and music literacy and language literacy strategies to develop reading and writing skills. Incorporated into this were other coding categories with information that related to these themes, such as teachers' beliefs about students and teaching, the setting, events and routines.

Further patterns emerged within the themes. Upon reviewing musical phonological awareness, it became apparent that teachers specifically used the concepts of beat, rhythm and pitch in a very conscious and sequential teaching process. Teachers began with beat exclusively and provided students with numerous opportunities to practice this concept. Once they felt certain their students were secure with beat, they moved on to rhythm. Pitch was always present through the singing of songs and tone matching exercises, but was not made conscious until teachers had worked on beat and rhythm. In addition, the sensory modalities of aural, visual and kinesthetic awareness were incorporated into much of what teachers did with their students and this was analyzed in conjunction with the data.

In reviewing phonological awareness, phonemic sounds and segmenting and blending were interwoven into teaching strategies. As well, the sensory modalities of aural, visual and kinesthetic were present in the teaching process and these were also analyzed in conjunction with the data.

The theme of musical literacy and language literacy focused on specific strategies and practices teachers utilized to teach reading and writing to their students. The themes were organized as follows:

SOUND:

Musical Phonological Awareness Experiences:

- Beat, Rhythm, Pitch: Aural, Kinesthetic, Visual Modalities

Phonological Awareness Experiences:

- Phonemic sounds, Segmenting and Blending: Aural, Kinesthetic, Visual Modalities

SYMBOL:

Musical Literacy Experiences:

- Beat, Rhythm, Pitch: Reading and Writing strategies

Literacy Experiences:

- Reading and Writing strategies

These themes constituted the framework for the data analysis component. The findings were further simplified by displaying the information in tables and figures. This presented the information in a concise, systematic format to show relationships among categories. As the information spans many categories and requires a comparison between music and language literacy, it was deemed appropriate to display the information in a spatial format that would accomplish this objective. Each theme was summarized in a table at the beginning of each section followed by discussion of data.

Part One looks at sound-to-symbol practices of music specialists. Part Two looks at sound-to-symbol practices of early childhood specialists. Part Three relates data from part one and two to determine similarities and differences in teaching processes from sound-to-symbol.

PART 1:

SOUND-TO-SYMBOL PRACTICES OF MUSIC SPECIALISTS

SOUND

Musical Phonological Awareness

(emergent musical literacy practices)

In this study, musical phonological awareness was defined as a conscious awareness that music can be subdivided into sequences of sound patterns (i.e. ta, ta, ti-ti, ta or la-sol-mi). These sounds are equated with notational symbols and are characterized by duration, which is beat and rhythm, and sound frequency, which is pitch. The following data is categorized into musical phonological awareness concepts of beat, rhythm and pitch as this is how music specialists were observed teaching music literacy to grade one students.

BEAT

The music specialists in this study felt that beat established the groundwork to begin the literacy process with their students. Teacher C observed that "*I actually do beat with all my kids all the time from kindergarten to Grade 6 all year long, because I feel that is the foundation for movement and dancing and instrument playing and singing . . . I know that I work on beat with every grade, actually, for all of September, and in Grade 1, even longer.*" Teacher B also noted she was "*constantly working on beat and beat is the first thing we do - all the time - with lots and lots and lots of beat. When they [the students] finally understand beat then we try and differentiate between rhythm and beat.*" In addition, the music specialists in this study all had their students patsch (pat) the beat on their knees. Teacher B explained this as "*I don't ever have them clap the beat because I do want to make a real definitive change between showing beat and showing rhythm. So, I have them clap rhythm* *when they are first learning and I have them patsch the beat just so that it is really a demarcation between rhythm and beat.* "

The music specialists approached the teaching of beat concepts by utilizing a variety of modalities; aural, kinesthetic and visual. Sound was present in all of the activities, but was further enhanced by adding movement and visual cues. Each of these modalities were explored with regard to beat.

Table I

Musical Phonological Awareness Experiences: Beat

Aural Experiences	Observed and Reported Teacher Practices
Listening to Environmental Sounds to discover beat	Students find sounds in the environment that keep a steady pulse or beat; a clock, wristwatch or heartbeat
Listening to a variety of recorded music to discover beat	Students are guided to find and show the beat while listening to a varied selection of music
Listening to a story / poem/ song and keeping the beat	Teachers have students keep the beat with their bodies during stories, poems and songs
Singing familiar songs and transferring the beat from song to song	Students keep a beat while singing a variety of songs
Playing pitched and non-pitched instruments to keep the beat	Students use instruments to keep the beat during songs and games
Kinesthetic Experiences	**Observed and Reported Teacher Practices**
Utilizing a variety of body motions to keep the beat	Students use movement such as rocking, patsching, stepping, stirring, arm pumping, hand clap games and head nodding to show beat
Utilizing touch to assist students to feel the beat	Teachers pat students on the shoulders to help them internalize the beat
Use of manipulatives and instruments to keep the beat	Teachers use objects such as stuffed animals and balls for students to pass on the beat
Folk Dance instruction and Party Play Games to internalize beat	Folk dances and party play games incorporate movements on the beat such as walking and hand clapping

Visual Experiences	Observed and Reported Teacher Practices
Teachers utilize a puppet or object to visually show the beat	A puppet or object is physically moved by teachers on the beat so students have a visual marker

Beat: Aural Experiences

- Listening to Environmental Sounds to discover beat

Students were asked to find sounds in their environment that keep a steady beat. They listened to one another's heartbeats through paper tubes, they listened to a metronome as a beat keeping machine and they found examples such as a clock and wrist watch that kept a beat. The analogy of the heartbeat and steady beat in music was often referred to. Teacher B asked the students: "*What does your heart do?*" The students replied "*It keeps you alive.*" The teacher then used this example to describe music as needing to be kept alive by the beat. "*What does the beat in music do?*" The students replied, "*It keeps the music alive.*"

- Listening to a variety of recorded music to discover beat

Students were exposed to different selections of music with a variety of tempos and were asked to find the beat. They responded to the beat using various body motions. Using the chant from a children's story, 'Chicka Chicka Boom Boom' the students in teacher C's class first listened to the story. The second time through they patsched the beat. The teacher guided students by also patsching the beat and commenting "*We're just keeping the beat, don't speed up . . . pat your knees softly.*" As students listened to a march, they patsched the beat while the teacher modeled.

- Listening to a story / poem/ song and keeping the beat

The teachers chanted a poem, read a story or sang a song. Students were asked to patsch the beat on their knees. In teacher A's class, students learned the poem 'Bernie Bee'. The teacher then encouraged the students; "*Can we keep a steady beat to the poem? Say the poem keeping a steady beat on your knees. Follow me, keep the beat steady! Our beat stays the same and even.*"

- Singing familiar songs and transferring the beat from song to song

Students patsched the beat while singing a variety of songs. The tempo sometimes changed and the length of each song varied. Singing familiar songs and patsching the beat was a routine with students in all the music classes, and was often a warm-up activity. For example, Teacher B sang through five familiar songs at the beginning of class; 'Rain, Rain', 'Snail Snail', "Billy Bad', 'Apple Tree' and 'Draw a Bucket of Water', and had the class keep the beat for all five before moving on to new material.

- Playing pitched and non-pitched instruments to keep the beat

Students learned to play the beat on a variety of instruments. Words were utilized if a student was having difficulty keeping the beat. Teacher A chose some students to play a bass xylophome or metalophone on the steady beat. She asked students to use the words "ticky tacky" to help them keep the beat. *"Grace, put the words in your mallets. You need to listen for your part so you know when to play."* She also played a game with the students where they kept a steady beat on a non-pitched percussion instrument while the other students patsched the beat and sang.

Beat: Kinesthetic Experiences

- Utilizing a variety of body motions to keep the beat

All the teachers used body motion extensively with the students to show beat. Rocking, patsching, stepping, stirring, arm pumping, hand clap games and head nodding were all some of the examples of the variety of movement used with students. The teachers employed creativity on the part of the child, getting the students to think of their own ways of keeping the beat. Teacher B explained that"*before they even know it's the beat they are using their bodies to feel the pulse and to feel the beat. We do that with lots and lots of different songs. In lullabies they can rock very gently so they are showing the beat. In 'Chickama Chickama Craney Crow' I have them sit cross-legged on the floor and I'll have* *them feeling the beat. These kinds of songs where they are just feeling it."* Teacher C referred to use of movement to support students experiencing difficulty. "*Some kids have no concept of beat at all. I don't know why that is, I don't know enough research about that. It's probably lack of exposure to music, or I don't know, but you work with them, and I have found again the movement to be the best thing.* "

- Teachers using touch to assist students to feel the beat

All the teachers used touch to help students feel the beat. The teachers believed that physically transmitting the beat to students helped them to feel and coordinate their body to the pulse. When playing a singing game, Teacher B described the use of touch "*I'll be doing that [patting beat] on their shoulders while they are singing and the rest of the classroom won't be doing that, but I will be doing that on that person's shoulders so they can feel me showing the beat on their shoulders. It gives me time to be very close to the child as well , and then when they respond and they are singing the answer with me or by themselves I'm right there with them and they can have that sense of feeling the beat. Where they're not doing it but I'm doing it on their bodies which I feel is an important way for them to feel beat.*"

- Use of manipulatives and instruments to keep the beat

The teachers all used manipulatives such as puppets, balls, bean-bags, stuffed animals, and instruments to add excitement and variety and to again provide another way for students to practice beat. Teacher A had students play a beat game by passing a toy pig around the circle. Students patsched the beat while the pig was passed. When the song ended the student holding the pig got a non-pitched percussion instrument and continued keeping the beat.

- Folk Dance instruction and Party Play Games to internalize beat

The teachers all described using simple folk dances and games to reinforce beat. Teacher A stated, "*I do a lot of folk dancing throughout the grades as well, even beat keeping with the grade ones with the 'Macarena' and the 'Bird Dance' and things like that.*" Teacher C teaches her class 'A Sailor Went To Sea', a hand clap game. Students practiced patsching the beat at they learned the song. The teacher modeled the hand clap game and had students imitate her and speak the words 'out - together' as they did the motions. She said "*Your hands keep the beat.*" When students did this with a partner, Teacher C modeled again and said "*I want hands to show 'ta- ta- ta- ta'.*"

Beat: Visual Experiences

- Teacher utilized a puppet or object to visually show the beat

This was a teacher directed activity with the teacher modeling for the students. Teacher B used objects while the students played the singing game. 'Apple Tree'. "*I have a koosh ball that we go around the circle with so that the children are seeing. I'll put it over their head, not touching their head, just as we are going around the circle and it will be on the beat as we are doing it. And that person would sit down when the beat falls on them. Now, you do that over a fair bit of time and then what I will do is have the children try and figure out, try and estimate where the next apple is going to fall. So what happens for them is they have to go through you know silently in their head as they are going around the room and eventually they will figure out it's an eight beat pattern, or a sixteen beat pattern and then they will be doing it in their head.*"

RHYTHM

The music specialists in this study felt that rhythm emerged from the groundwork done with beat. They believed this groundwork enabled students to differentiate between the steady beat and move into 'the way the words sound'. Teacher B described her experiences with kindergarten children moving to grade one. *"We never use the word rhythm in kindergarten but they are doing it in kindergarten. By the time they come to grade one we go from saying we're showing the words to saying this is called the rhythm. The rhythm is the way the words go in the music, then you make that bridge in making sure they have kind of come along with you."* She suggested rhythm seemed to come about naturally with practice and a firm grounding in feeling and understanding beat. Teacher A suggested *"As far as rhythm just lots of work with clapping and with the instruments are such a natural motivator. You know the more and more you do, they will eventually get it."*

Data describing the development of rhythm skills through sound is shown in Table II and further illustrated using the modalities of aural, kinesthetic and visual experiences in the text that follows.

Table II

Musical Phonological Awareness Experiences: Rhythm

Aural Experiences	Observed and Reported Teacher Practices
Echo Clapping	Teachers clap a rhythm pattern and the students echo this pattern back
Listening for long and short sounds	Students listen for long or short sounds on the beat
Listening to a rhythm pattern and associating it with a known song	Teachers clap a rhythm pattern and students guess which familiar song it could belong to
Kinesthetic Experiences	**Observed and Reported Teacher Practices**
Experiencing rhythms through body percussion	Teachers use a variety of rhythmic body percussion patterns; snapping, clapping, patsching and stamping, for students to echo back
Playing rhythms on pitched and non-pitched percussion instruments	Students play the rhythm of song or poem words on the instruments
Using actions to highlight elements of rhythm	Students use actions to highlight quarter and eighth notes and quarter rests; i.e.(blowing for a rest)
Visual Experiences	**Observed and Reported Teacher Practices**
Clapping from left to right	Teachers clap rhythm patterns from left to right to show reading direction of notation
Using icons to represent songs	Teachers use pictures to represent songs; i.e. (umbrella for 'Rain Rain')

Rhythm: Aural Experiences

- Echo Clapping

Rhythms were incorporated into all classes as part of classroom routine through rhythm echo clapping. The teacher clapped a rhythm pattern and the students echoed the pattern back. This was often used at the beginning of the class to focus the students and get their attention. Teacher A described her classroom routine as beginning with echo clapping. "*Well, normally from the time they come in they always go to the same spots and we start with a few rhythm clap backs. I will clap a few rhythms and they will echo back.*"

- Listening for long and short sounds

Teachers A and C used the concept of long and short sounds as a precursor to reading actual rhythm. Teacher A said "*We clap it saying the words and then what I then say to them 'does this sound long or does this sound short?' and we talk about it. So they will say 'long, short, short, long'.*"

- Listening to a rhythm pattern and associating it with a known song

Teacher B clapped a rhythm pattern and asked students to tell which song was being clapped. Students guessed and then checked the song by singing it and clapping the rhythm while the teacher clapped the rhythm again. Students listened for any differences in the rhythm patterns.

Rhythm: Kinesthetic Experiences

- Experiencing rhythms through body percussion

The teachers expanded clapping rhythms to patsching, snapping, and stamping. This was usually done as an echoing of the teacher's rhythm pattern. Teacher A used body percussion to highlight certain words of a song, such as snapping on the word red or clapping on the word yellow, and then transferred this to instruments.

- Playing rhythms on pitched and non-pitched percussion instruments

Students took the rhythm of the words and put it on instruments. Teacher A used a nursery rhyme 'Wee Willie Winkie' with the students. The students were taught the rhyme with actions. Each action represented the rhythm of certain words. For the words 'rapping at the window' she asked the students "*How do we make the words on our hands? It's putting the rhythm of the words on the temple blocks.*" She chose a child to play the temple blocks and continued on. 'Crying through the lock' was played on the bass drum.

- Using actions to highlight elements of rhythm

Often teachers used actions to highlight quarter, eighth, and half notes and rests. Teacher B described how she prepared the concept of rests in music. "*There are lots of games and things where they have to do a different action during the rest period or there is a silence in there that they are doing something else . . . We present the rest as a beat of silence later on. For example in 'Hot Cross Buns' they will be doing that 'blow' [shows a blow on the rest while singing; 'Hot Cross Buns - blow- Hot Cross Buns - blow -] all during kindergarten and then later on, when we are doing it in grade one, we'll take that 'blow' out and we will talk about how there can be silence in music.*" Teacher A also described activities to focus students on note values. "*Well, what I have found that works well for me, what I did last year was talking about slow and fast as we were walking around the room, or marching and you know we were experiencing different ways of walking. And it is kind of tricky because you have the beat and you have the rhythm so sometimes we are walking with a steady beat and sometimes we are skipping and doing all of that .*"

Rhythm: Visual Experiences

- Clapping from left to right

Teacher B always clapped rhythm sequences from left to right to prepare students for the direction of reading notation. "*Even when I'm clapping rhythms I'll move from the left to right with my hands and the same thing with melodies. I will try and get them to see that left to right movement.*"

- Using icons to represent songs

Teachers used symbols to represent certain songs. Students then recalled familiar songs and were able to clap back rhythms of those songs. Teacher B explained "*I like to use lots of icons, I will have, for doing 'Rain, Rain, Go Away' I will have umbrellas and 'See my Little Ducklings', I will have ducks. I like to use lots of those kinds of things.*"

PITCH

Music specialists in this study felt that developing pitch was a process emerging from practice, experience and encouragement. "*I don't get really concerned with pitch. There are a lot of kids by Christmas of Grade one, there are many who still can not get their pitch, as long as they are trying and participating it is going to come*" (Teacher A). They were most sensitive to the child's emotions and all believed that developing confidence and being persistent were the keys to developing tuneful singing and a good ear for musical pitch. Teacher B explained her view of the child's voice. "*I think children are very sensitive about how we talk about our voices and how we work to make changes. . . If I say that what you're singing isn't quite there yet you have to be open to doing something else with your voice. Maybe you haven't tried everything you can do with your voice and then what we do is try and encourage each other to try something different until we get a chance to kind of feel what's happening. So, I think it's important to somehow open that door to have children to be open for more new ways to do the things with their voices. Once you kind of open that door then I think the flowing of new things happening for children is better. I really do! . . . I think we can sometimes close children off quite easily without even being sort of aware of it unless we are giving them the goodies for what we value. What do we value? We value making changes. So, if we value making changes then we have to let children know we value making changes. We don't only value getting them to the product we are looking for, that they are singing in tune all the time, but that they are willing to make that change or that they are willing to try something new and I think that I try really hard for my students to understand that I value that they are willing to make a change.*"

When teachers were asked to recall a success story during their careers, they all relayed a story about a child finding their voice. For Teacher C it was a student she taught for 6 years. "*I will never forget a boy I taught a long time ago. [He] couldn't match pitch to save his soul, poor boy, and we tried and we worked at it, and he came to choir, he was in*

Grade 1 and 2, and he came to choir in Grade 3 and Grade 4 and Grade 5, and finally by Grade 6 , he got it, and he was so excited, and I thought, Yes! we have to be persistent."

As with beat and rhythm; aural, kinesthetic and visual experiences were described in relation to developing pitch in the discussion following Table III.

Table III

Musical Phonological Awareness Experiences: Pitch

Aural Experiences	Observed and Reported Teacher Practices
Vocal Experimentation	Using a variety of voices (talking, whispering, singing) and a variety of vocal sounds (sirens, ghost sounds, animal sounds) to discover the many sounds the voice is capable of and to distinguish the singing voice from other vocal sounds.
Echo singing or singing by rote	Teacher sings a melodic segment and students echo it back to learn a new song and to match pitch
Question and Answer Songs	Teachers sing a question (i.e. What is your favorite food?) and a student sings back a response
Individual Singing Games	Students play games in which one student sings alone. Teachers have the opportunity to listen to and encourage any correction in the student's voice
Inner Hearing Games	Games where students must internalize a song. They must be able to hear the music in their heads and know when it will end.
Listening to Quality Music	Students listen to a variety of musical selections or the teacher's voice to expose students to quality and variation in musical sounds.

Kinesthetic Experiences	Observed and Reported Teacher Practices
Using the body to show high and low sounds	Use of body movement to show high and low sounds - the body goes up when the sound is higher and sinks to the ground when the sound is lower. Eventually hand movements will translate to Curwen hand signs.
Using the pitched instruments to show high and low sounds	Students play pitched percussion instruments to feel high sounds moving up or low sounds moving down the instrument

Visual Experiences	Observed and Reported Teacher Practices
Utilizing puppets to show high and low sounds	Puppets are used by the teacher to show high and low sounds. When the teacher moves the puppet up it indicates to students to sing higher, down means sing lower.
Utilizing instruments to show high and low sounds	Using the pitched percussion instruments to show that sound moves from high to low when the bars are played from small to large. Also the larger the instrument the lower the sound.

Pitch: Aural Experiences

- Vocal Experimentation

Experimenting with voice and discovering the difference between talking and singing was seen as an important development for grade one students. The three teachers used a variety of vocal sounds from talking, whispering, sirens, ghosts, animal sounds and singing to allow children to try new things and realize the potential in their voices. *"I am spending a lot of time just having them discover the difference between their speaking and singing voice and all of that, and we discuss that and do lots of echoing of patterns I sing to them, and . . . the sirens and the whistles and experimentation"* (Teacher C). *"I like to begin with . . . a vocal warm up, so they get their voices ready for whatever the singing is that we are doing for that period. So, to get a good vocal stretch with different kinds of sounds, getting them into their head voice. That is the time that I use to demonstrate the difference between singing voice, playground voice, talking voice"* (Teacher A). The teacher was also seen as a meaningful model for the children to follow and listen to. *"I think the important thing to do is to get kids to be using their singing voices into their head sounds. I do a lot of modeling of different voice sounds so that they can hear in my voice what the difference is. I find that some children can't distinguish that for themselves, in their own voices, but when I model something that sounds like a talking voice it will eventually come through on a more subtle kind of way, because our voices are part of us "* (Teacher B).

- Echo singing or singing by rote

To teach a new song or to assist children with pitch matching, the three teachers modeled the melodic phrase to be sung and students echoed back. When teaching a new song, teachers would sing the song in it's entirety, then sing one phrase at a time and have students echo it back and then string more phrases together until students were secure in singing the whole song. Often as part of the beginning warm up routine, teachers had a

'Good Morning' song or a greeting song that the teacher sang and students would echo back.

- Question and Answer Songs

Teacher A used question and answer songs as part of her warm-up routine. "*I love food so I am often singing 'What's your favorite ice-cream?' or 'What's your favorite pizza?'* " and then the students responded with their answer. She encouraged them to be creative and have their own ideas. She also encouraged them to sing the correct pitches back to her by singing with them or utilizing puppets and finger movement to get them to sing higher or lower.

- Individual singing games

The teachers felt singing individually in a game situation enabled children and teachers to hear the child's voice and further assist with correcting pitch. "*In 'Billy Bad' the whole class is singing and the little one in the centre sings with me, and will eventually go on their own. And again that gives me a lot of chances to be with that person and to hear the voice individually and just with me because I find that sometimes children don't key into in-tune singing until they hear their voices by themselves or with the teacher only. Sometimes there is too much sound going on and they can't filter out their own sound. . . If I'm singing it by myself and singing it into his little ear then at least he's hearing it in turn. That's another opportunity to hear the sound and to get an idea of pitches there too. Eventually I find that all children will come along if it's done gradually and in a really safe environment*" (Teacher B). In addition, teachers felt it was important to sing into the ear of a student experiencing difficulty to enable them to hear the correct pitch. "*There are times when I will bend down and sing closer to their ear and you know just do things like that and before you know it the more they do it, or I try and put them by a stronger singer. That is how I try and help with pitch*" (Teacher A).

- Inner Hearing Games

Games involving students to internalize a song were also used to develop inner hearing. Teacher A played a song on the piano and students had to freeze when the song ended. It required them to know the song and be prepared for when the song would end.

- Listening to Quality Music

All the teachers played a variety of music for the students, from classical to choral to Broadway musicals. Teacher A had a school-wide listening program over the intercom each afternoon to expose all students to quality music. "*Each week the children listen to one piece every day and it's the same piece . . . this is what I do so they get a wide range the whole year. Every once in a while, because I like to keep it current, if something exciting is happening, when 'Joseph [and the Amazing Technicolor Dream Coat]' was on, or 'Phantom of the Opera' I will play something from those musicals.*" Teacher B felt strongly that "*students need to hear a quality example of good singing every day.*" She played recorded choral music and often sang folk songs and ballads to the children each class.

Pitch: Kinesthetic Experiences

- Using the body to show high and low sounds

Teachers used a variety of body movements to assist students in understanding and listening for high and low sounds in music. "*We do lots of movement. I find that they understand it better. . . We do lots of showing hands in space and we use our bodies for up and down to show high and low. . . I would sing a pattern like 'lu, lu, lu' and they would just have to show where the high one was, where the low one was, and then high again, that kind of thing, lots of movement up and down*" (Teacher C). Teacher B had students showing the high and low sounds with their hands. "*They start with the higher sounds. So they hear the high sound and the low sounds and their bodies are doing it at the same time. When we are doing a kind of vocalese kind of thing where they are warming up and I'll do* *from a low sound to a high sound, I'll show my hand going there and they will do it when they answer. So their hands are involved in showing the contour even before they know anything about melody or that word has even been mentioned. So we do talk about the high sounds and the low sounds, but again it is building up."* The use of hands to show high and low sounds would eventually translate into using 'Curwen Hand signs' to show the pitches sol, mi and la when the students were prepared for more formal literacy activities.

- Using the pitched instruments to play high and low sounds

Teacher A used instruments to provide another link for her students to hear high and low sounds. *"It is just getting aware of that high-low, all of those sounds will transfer to instruments even with high sounds and low sounds. That sort of helps make them aware of the 'sol's' and the 'mi's', because that is the first thing they are going to learn."*

Pitch: Visual Experiences

- Utilizing facial expressions and body movements to encourage tone matching

The three teachers constantly used body language to encourage students to match pitch. Teacher A commented on teaching pitch; *"Well, with pitch I certainly will try and assist in giving them little signals with your face, showing your eye brows, trying to encourage them. In grade one they are so willing to accept suggestions if it is done in a kind way. They don't even know they are doing anything wrong, which you would never tell them."* She described an experience with an out of tune singer. *"He joined choir last year and I thought 'Oh dear!' He was so loud, he was so monotone and all of a sudden he found his singing voice, this was last year, and I just remember being so excited in choir and he was just thrilled because the other kids were so happy . . . You know all I had to do was go over sometimes and motion with my finger a little higher. My eyebrows are always going up, trying to help them and he finally got it. That was pretty neat!"*

- Utilizing puppets to show high and low sounds

The teachers often used puppets or props in addition to using their facial expressions and body language to assist students with pitch. "*If they are singing something and it's kind of flat or monotone, I will get the puppet to kind of help them and try and move the puppet up*" (Teacher A).

- Utilizing instruments to show high and low sounds

Teacher A used instruments to visually and aurally show moving from low to high sounds. "*Another thing I use is recorder a lot or the Orff instruments to show high and low, and we use the xylophone and show the smaller bars are high and the bigger bars are low.*"

SYMBOL

(Musical Literacy Practices)

This section looked at musical literacy practices used by music specialists with their grade one classes. Data were categorized into reading and writing experiences with the concepts of beat, rhythm and pitch and aural, kinesthetic and visual modalities.

Beat

As suggested previously, beat was felt to be the foundation for rhythm and pitch and was often the first element students were exposed to in learning to read music. Following is a list of practices the music specialists used in this study to continue developing music reading.

Table IV

Musical Literacy Experiences: Beat

Reading Experiences	Observed and Reported Teacher Practices
Counting the number of beats in a song and comparing a variety of songs	Students patsch the beat while they sing familiar songs and the teacher records the number of beats. Students count and compare the number of beats in a variety of familiar songs.
Using the heart icon to equal one beat in music	As beat is an abstract concept, the heart icon is used to represent one beat in music
Using additional icons to represent beat in music	Other icons such as drums, pumpkins and vertical lines representing quarter notes are used to show the beat in a song

Writing Experiences	Observed and Reported Teacher Practices
Using the heart beat symbol to write the number of beats in a song.	Teachers draw hearts to represent beat. Students use a variety of manipulatives such as felt hearts to write the number of beats in a song

Beat: Reading Experiences

- Counting the number of beats in a song and comparing a variety of songs

(auditory/ visual)

Music specialists in this study introduced literacy activities by having students count beats in a song. "*Actually I always build up the notation always starting from beat. So that if they are showing the beat like a patsching kind of motion what I'll do while they are doing that is I'll just put marks on the board, just in any direction, especially not straight down, so they don't ever mix that up with what a one sound on a beat looks like. So I will just make strokes on the board as they are doing the beat. So the first notation they are introduced to is beat notation. The first thing is just to feel those beats as we are doing it and then what we will do is they will practice counting and as they count each beat I'll stroke it through. So we will do, for example, 'Rain Rain'. Then I'll say 'Let's count those beats'. Then we'll start counting and we'll discover there are eight heart beats and I will draw eight heart beats on the board and then we will see if that is the right number. So as I am pointing to them I make sure there is sound, so as I am hitting them on the board they will be able to feel those beats at the same time. 'Let's check and see if we have the right number. Were eight beats correct for that song? Yes.' They are now reading from left to right*" (Teacher B). From there, teachers have students count beats in a variety of familiar songs to determine if they have more, less or the same number of beats as other songs.

- Use of the heart icon to equal one beat in music

(auditory/ visual/ kinesthetic)

All the music specialists used the concept of the heart icon to represent the beat in music. They used a variety of resources such as felt hearts, laminated hearts and heartbeat cards with eight heart stickers in rows of two on each card. This provided students with actual objects to manipulate and gave them something tangible to represent the abstract concept of beat. "*I have heart beats for the children to use for themselves, that they use in* *front of them on the floor so that they start feeling them. So that tactile feel of reading, so the reading of the notation is being strengthened by the tactile touch as they are touching the beats in front of them. They will have them in front of them and they will be doing a song. Or two sets of four. They have to first of all get a really good idea of how it feels and how it goes, reading from left to right with just the beats and once they have that I have them work in pairs. One child will point to the beats while the other child sings the song with them and then they will change places... Just a lot of practice with touching and feeling the beats and reading from left to right*" (Teacher B).

- Use of additional icons to represent beat in music

(auditory/ visual)

The three music specialists also used additional pictures to represent the idea of beat in music. The teachers tapped the pictures while the students sang and patsched the beat. In Teacher A's classroom, she used a bulletin board of pumpkins on stairs for the song "Five Little Pumpkins". The stairs represented the beat and the climbing pitch while the pumpkins represented the sounds on the beat. As the students sang, she climbed the stairs with her fingers. Teacher C used a Big Book from a music series showing two rows of four drums and underneath each drum was a vertical line representing the symbol for quarter note or 'ta'. As the teacher pointed to the drums, the students patsched the beat. The second page showed the same format but with feathers. This time as the teacher pointed, the children patsched the beat softly.

Beat: Writing Experiences

The music specialists in this study built on reading experiences by having students practice writing notation. They had students begin with writing the number of beats in a song to mirror the practice of building a strong understanding of beat in their students before progressing to the concepts of rhythm and pitch.

- Using the heart beat symbol to write the number of beats in a song.

(auditory/ visual/ kinesthetic)

Students were given felt or laminated hearts and asked to write the number of beats in a given song. They needed to write their beats in rows of four to prepare the concept of 4/4 time. Once they had done this they checked their work by singing and tapping the beats. Teachers often had the students working with a partner for this activity. Teacher B also had students hit each heartbeat with a rhythm stick to create a sound and a feel for the beat

Rhythm

Once the music specialists in this study felt beat was firmly established, they moved students to focusing on the number of sounds they heard on each beat. Following is a list of activities they used to promote rhythmic reading.

Table V

Musical Literacy Experiences: Rhythm

Reading Experiences	Observed and Reported Teacher Practices
Showing number of sounds on the beat	Students clap the rhythm of a song while singing. They show how many sounds they hear on each beat by holding up one, two or zero fingers. The teacher then records the number of sounds above the heart beats. Quarter and eighth notes and quarter rests are written.
Playing instruments to read rhythms	Children read written rhythms and play them on the percussion instruments. Different instrument families may play different notation (i.e. woods play quarter notes, metals play eight notes).
Writing Experiences	**Observed and Reported Teacher Practices**
Using icons to represent rhythm	Picture symbols are used to represent rhythm. A tree can represent the beat and the number of nuts in the tree can represent the rhythm.
Using hearts and popsicle sticks to write rhythm and beat	Students use hearts to show the beat, and popsicle sticks to write the number of sounds on the beat.

Rhythm: Reading Experiences

- Showing number of sounds on the beat

(auditory/ visual)

Once students could identify the number of beats in a song the specialists moved on to the number of sounds they heard on each beat. "*So once they have that [the beat] then you move to 'you clap the rhythm for the song and I'll show the beats on the board.' So as I'm showing the beats they will be clapping the rhythm. And I'll start from the end of the song asking them how many sounds there were on that beat? . . . and they will come to tell you that there is one sound on that beat. So I will show them one sound on that beat. We will go to the end of the song . . . going through that process nice and slowly and carefully and I will write it for them for many times, for many songs, that are eight beats and sixteen beats long until they have a really good idea of how to do that. Then they just hold fingers up. You know, one sound on a beat, two sounds on a beat and eventually we move from there to them deriving a beat and deriving the rhythm*" (Teacher B). Teacher A described the process in a similar fashion. "*So I draw four hearts and from there sometimes what I will do is just make little ticks of 'how many sounds did you hear on this beat?' And we will listen together and they will tell me whether they hear one or two sounds and I will just put a one or I will draw two lines if it is two sounds and I won't put any bars across or anything. I won't join them together. I will just leave it so it looks like one line or two lines and then I will say 'Oh lets just clap this" and we will clap it saying the words short or long . . . So again we start reading from left to right with the beats and we will do that for the first measure and then let's say it is only eight beats long this whole song. Then we can move down to the next line and do a rhythmic analysis with just how many sounds. . . Then by two or three times of doing this activity we can tell them ' Well, when these two are together they are buddies and I join them together, and these are called 'ti-ti's. And these are called 'ta's' instead of saying long, short, short, you are such big kids now we can learn the proper* *words, then they know it's 'ta' and 'ti-ti'."* From writing the number of sounds on a beat, the teachers prepared students for the formal notation of quarter note, eighth notes and rests.

- Playing instruments to read rhythms

(auditory/ visual/ kinesthetic)

Teacher A had students play rhythms on instruments by reading rhythm notation from the board. *"I hand out instruments and we have our woods and our metals and we will all do it. Sometimes I will say 'Let's have the metals do the long sound and the woods will do the short sound.' So then they are starting to really be aware of what they are reading and playing and then we will switch. "*

Rhythm: Writing Experiences

Teachers introduced the writing of rhythm after preparing students through numerous reading activities.

- Using icons to represent rhythm

(auditory/ visual/ kinesthetic)

Teacher A used a chart with trees to represent the beat in a Squirrel song the children had just learned. She then used squirrel cut-outs to represent rhythm or sounds on the beat. If there was a squirrel in a tree they said 'munch'. If there were two squirrels in a tree they said 'munch-munch' and if there were no squirrels it was silent. This was preparation for quarter and eighth notes and quarter rest. After students were successfully able to do this vocally she gave them non-pitched percussion instruments and had them try reading the rhythms again. In the end, she gave them their own little tree cards and a bag of nuts. Students placed one, two or zero nuts in each tree to represent rhythm. They worked with a partner, one writing the rhythm and the other saying it and then reversed roles.

- Using hearts and popsicle sticks to write rhythm and beat

(auditory/ visual/ kinesthetic)

Teacher B modeled first on the chalkboard the number of beats in the song and the number of sounds heard on the beat. She solicited the children's assistance to count the number of beats and to show with their fingers the number of sounds they heard on the beat. She then erased the board and had children work in partners with felt hearts and popsicle sticks to write the correct rhythm above the correct number of beats. The children set out the hearts in two rows of four with an alley in between the rows so they had room to write the rhythm. The teacher circulated, commented and had the students demonstrate the completed song by singing and pointing to the rhythm as they sang. Once everyone was finished writing, the partners took turns patting the beat while the other clapped the rhythm. The teacher asked the students to tell another song that was eight beats long. Then the process was repeated.

Pitch

Once the music specialists felt students were secure reading and writing beat and rhythm, pitch was introduced. Following are reading experiences that developed the concept of pitch.

Table VI

Musical Literacy Experiences: Pitch

Reading Experiences	Observed and Reported Teacher Practices
Drawing the melodic contour of a song	Teachers show the high and low notes in a melody by drawing lines to represent the way the melody flows
Using symbols to show melodic contour	Teachers may use pictures of stairs to represent the sound going up and down. Icons such as stars are placed lower and higher on the board to represent the low and high sounds in a song.
Using a staff to show relative pitches of sol, mi and la	Teachers introduce songs on a staff and point to the symbols on the staff as the students sing. Students use their hand as a staff and show where pitches such as *sol and mi* are placed with the fingers of the opposite hand.

Writing Experiences	Observed and Reported Teacher Practices
Using a staff and icons or notes to show pitch	Students use a staff card and symbols such as circles or stars to show where high and low sounds such as *sol, mi,* and *la* are on the staff.

Pitch: Reading Experiences

- Drawing the melodic contour of a song

(auditory/ visual)

Teacher B utilized melodic contour of a song to develop the concept of high and low sounds. "*What we'll do is show melody contour on the board. So, while they are singing 'Rain Rain', I'll be notating the high sounds and the low sounds and we will go through the melody contours and then we will join the dots sometimes and I'll make all the outlines and the hills and that sort of thing so they are actually reading from left to right, notation that is going higher and lower . . . lots of melody contours so they are getting that 'I'm always working from the left to the right '.*"

- Using symbols to show melodic contour

(auditory/ visual)

Teacher A used a bulletin board of pumpkins on stairs for the song "Five Little Pumpkins". The stairs represented the beat and the climbing pitch and the pumpkins represented the sounds on the beat. She demonstrated with her voice and by pointing to the pumpkins how the pitches in the melody went higher and lower. Teacher C moved from the actions showing high and low to the symbol for high and low by using icons. "*I use the felt cut-outs and this is a high sound and this is a low sound and then we will place the little felt cut-out on the board, just a plain board - high and low.*"

- Using a staff to show relative pitches of *sol*, *mi* and *la*

(auditory/ visual)

The music specialists used a variety of materials to show the staff line and relationship of pitches on the staff. Teacher C began this process by simply showing two lines of the staff and the notes *sol* and *mi*. "*I may take two pieces of string, a high string and* *a low string, and place the figures on and then we will follow it, as if we are reading from left to right. So they are starting to figure out the direction of music, the direction of words."*

Teacher A introduced the concept of staff lines and pitch by having pumpkins on a staff showing *sol*, *mi*, and *la*. She sang a song and pointed to the pumpkins on the staff as she sang. She taught the song to the students and continued to point at the pumpkins each time they sang.

Teacher B used the children's hands as the staff and had them show the relationship of pitch in this manner. *"I think children understand notation when they understand the new need. We need this and once you do the need part and you marry the two things together I have found that it is really very successful to put those two things together and to have children reading full notation by the end of grade one. . . Again I have them do lots with their hand staff because this has five lines and four spaces in it. They count the lines and spaces and they feel the spaces. This is their own staff. We do lots of singing. We start singing on a different note. They get the idea that as you're going higher in the staff that you are also singing higher and as you are going lower in the staff you are also singing lower. . . 'When we are singing sol on line two, where is mi?' 'It's on the line below it,' So , lots of participation by them where you are actually deriving from them. So that the rules come out of an understanding of what has gone before, instead of this is the rule. . . there seems to be a pattern here, that whenever so starts in a space, mi is miraculously in the space below it. . . really find the magic moment when they kind of see the rules happening and then that rules starts becoming something that they understand because they have internalized it."*

Pitch: Writing Experiences

Writing pitch was introduced following reading and writing experiences in beat and rhythm.

- Using a staff and icons or notes to show pitch

Teacher B had the students writing the high and low sounds they heard which is eventually translated to *sol* and *mi*. "*They have their own little laminated staffs and little discs that they use to show high and low. In the beginning, I really don't care if it's on a staff or would just be on the carpet.*"

Summary

In this study, the three music specialists demonstrated a careful and conscious process of bringing students from the sound to the symbol. They worked through specific musical phonological awareness activities to prepare students aurally, kinesthetically and visually for reading and writing notation. The specialists observed demonstrated or discussed musical phonological practices such as listening experiences, imitating patterns, discovering songs with familiar rhythm or melody patterns, identifying rhythms or melody of familiar songs, and question and answer songs. Notation was not introduced until it was felt students were sufficiently prepared aurally.

PART 2:

SOUND-TO-SYMBOL PRACTICES OF EARLY CHILDHOOD TEACHERS

Upon inspecting data gathered from the early childhood classrooms, it was immediately apparent that there were major differences in the progression early childhood specialists used with grade one children in teaching literacy. Literacy was approached as an integration of sound and symbol practices rather than moving from the sound to the symbol. In the classrooms observed, there was very little teachers did to build sound alone. Phonological activities were done in conjunction with viewing or writing print. Students were immediately immersed in the printed word. Only when students were experiencing difficulty with literacy did the teacher revert to aural phonological activities with that specific child.

Teacher F described the way she teaches literacy as integration. "*You know at our school we are fortunate, because the majority of children come knowing most of their letters and the appropriate phonemes for them, but for those who don't, my heart says just integration. I still at times will start the year doing some isolated phonics work, but I think as I progress and feel more comfortable as a teacher, I am trying as much as possible to do the majority of the phonetic work in context, because I just think it is more meaningful for the kids and it sticks. I don't know if practicing 'B's' and where do you hear it, the beginning or the end, I don't know sometimes if it transfers. I don't know. Some of my students who are good at it, who knew, or had a strong base in terms of phonemic awareness did wonderfully, but my children who were struggling with it, beginning and end, they didn't get it, because some of them still didn't know what a beginning and end was. They had such a hard time with that concept, to represent it, it's too foreign . . . So, I think integration is the key, and again going back to what does the child know, making it personal. . . That, to me, seems a better way.*"

Data for this section was organized into two categories:

1. Phonological Awareness
    - Phonemic Sounds: which include identifying and matching sounds at the beginning, middle and end of a word and adding or substituting a sound in a word.
    - Segmenting and Blending : which includes breaking a word into its individual sounds and combining individual sounds to form a word.

2. Literacy
    - Reading Experiences
    - Writing Experiences

SOUND

Phonological Awareness

(Emergent Literacy Practices)

Phonological Awareness is the ability to reflect on and analyze the phonological or sound structure of the spoken language. As emergent readers and writers begin exploring spoken language, they develop an awareness of the words, syllables, rhythms and sounds in language (Fox, 1996; Torgesen, Wagner & Rashotte, 1994; Treiman, 1991; Tumner & Rohl, 1991). In particular, studies indicate that phonemic awareness ". . .is the single most powerful advance in the science and pedagogy of reading this century." (Jager Adams, 1991) The early childhood teachers observed, utilized phonemic awareness activities within the regular classroom program in a sound and symbol context. Everything they did was woven together with print.

The concept of phonemic awareness is analyzed in the subsequent section beginning with Table VII and concluding with discussion. Segmenting and blending experiences are also analyzed following phonemic awareness, beginning with Table VIII and concluding with discussion.

Table VII

Phonological Awareness Experiences: Phonemic Sounds

Aural Experiences	Observed and Reported Teacher Practices
Listening for the initial or beginning sound in a word	Teacher breaks down words slowly to assist students in hearing the initial sound in words (i.e. ccc-ooo-www) Stories that focus on a particular phonemic sound (i.e. Bobby's Blue House) are used. Students listen for words that begin with that sound. While reading to children, the teacher takes the opportunity to point out words with the same phonemic sound and asks children to listen and find others.
Listening to the teacher's voice	Listening to the teacher's voice saying phonemic sounds and breaking down words into components is important to develop aural discrimination.

Aural/ Visual Experiences	Observed and Reported Teacher Practices
Manipulating the middle and endings of words	Students manipulate word endings to create different words such as *cat, cab, can, cap*. Students manipulate the middle of words to create new words such as *pin, pan, tin, tan, fin, fan*.

Aural/ Visual/ Kinesthetic Experiences	Observed and Reported Teacher Practices
Listening for onset and rime in 'word families'	Students learn to manipulate letters to create rhyming words such as *ill, dill, bill, fill.*
Printing to develop awareness of beginning sound in words	Teachers introduce a letter of the alphabet and the corresponding sound. Students think of words that begin with that sound, look for words in the classroom that begin with that sound and practice printing the letter.

Phonemic Sounds: Aural Experiences

- Listening for the initial or beginning sound in a word

Teachers used a variety of strategies to assist students in listening for and identifying initial sounds, as some students did not always hear the initial sound when writing a word. *"Often children know the last sound because that's what they hear last. When you're doing this 'ccc-ooo-www' and they hear the 'w' that's the last sound they heard, so often that's the last sound they remember. But, if you tell them to listen for the first sound, because we often think children hear the initial consonant and they do - they do when they are looking at print- but if there's no print I find it is quite common to hear the other sound and so they put that down. So I say 'Let's listen again. What else do we hear?' so I do that with groups of children who I think are weak"* (Teacher E).

Teacher D used alphabet stories that focused on a particular phonemic sound. She told the story orally and students listened for words that sounded alike. She used the story "Bobby's Blue House" and the students immediately guessed it was about 'B'. Upon finishing the story the teacher asked the students "What did you notice about the word 'boots'?" The students responded *"It starts with 'b'." "Did anyone hear other words that start like 'boots' with a 'b' sound?"* The students responded with ball, boom, bumblebee, book, bear, blue. Some students responded incorrectly with 'house' and 'trees'. The teacher corrected them by repeating the 'b' sound and asking the students if those words start the same way.

Teacher E read a big book story to the students. As she read the poem "Something is There" for the second time, she pointed out the words 'slinkety-sly" because they sounded so nice together. She asked the students to say the words and then to say the sounds 's' and 'sl'. *"What sounds do you hear?"* The students identified the 's' sound and listened again for the 's' sound in the poem. Students called out words with the 's' sound; something, slinkety, sly, stair. *"Who can find the 's' sound at the end of a word?"* Students discovered 'is' and 'wants'. "*When you write, think of that 's' sound at the end of words because you use it quite often. It is a soft sound.*"

- Listening to the teacher's voice

Teacher D described the significance of the teacher's voice for those students who were experiencing difficulty with phonemic sounds. The proximity to the teacher was important. "*I have one particular spot that I like to stand when I'm talking to the kids. I think that also that is good for grade ones because they know that when you're there in that spot they need to be listening to you. I'm doing it for a reason. So, I make sure that those children that are having trouble are the ones that I see. They're the ones that are the closest to my mouth so they are hearing more of the sound that the other children who are perhaps further away. The sound is not decayed, you know what I mean? By the time that you get to the back of the class, some of those trickier sounds can really decay.*"

Phonemic Sounds: Aural / Visual Experiences

- Manipulating the middle and endings of words

Once students were secure with onset of words, teachers moved on to manipulating the middle and endings of words. "*Then we will go on and change the ending of the word ' cat, can, cap, cab'. Then I go and we have a discrimination task, so it will be 'Does the word sound like 'in' or does the word sound like 'an''. and I'll draw a line down the middle of the board, and I'll say the words and then does it sound like 'an' or does it sound like 'in' and the kids can point, or the kids that think they know can write it. Then I put it up and we practice reading the words we have made*" (Teacher E).

Phonemic Sounds: Aural / Visual / Kinesthetic

- Listening for onset and rime in 'word families'

Teachers used word families or rimes such as all, ball, fall, mall, to assist students in developing literacy skills. "*What I do is more what we might call 'word families' or 'patterning' or using 'onset and rime'. So we will do that all together. . . I talk about groups of letters together that we hear in many words and 'Can we make words now?' and "Make words with 'ill' in them.' you know - pill, bill, sill, dill. Sometimes I give them help. I give them a bunch of letters at the top and I say, 'quite a few of these will make a word that makes sense. Can we make them?*" (Teacher E). Teacher D described her spelling program. "*I don't have a spelling list at the beginning of every week. What I do instead is I do an activity where I will take a small number of words, I'll start out by just changing the onset of the word. For example ' at'. We'll start out with 'at' and write cat, mat, sat, fat, and what else can you think of?*" Teacher D modeled this in her teaching with the 'ad' family. She printed an 'a' and had students say the short 'a' sound. Next to it she printed a 'd' and had the students say the 'd' sound. The teacher blended the sounds together and had the students say it and write it on their individual chalk boards. "*There are lots of words that end in 'ad'. Here's a word we're going to make that has 'ad' at the end, 'sad'. What sound do we need at the beginning?*" Students said 's' and wrote it on their chalk boards. The next word was 'pad'. The teacher modeled the sound of the beginning letter and the students wrote it. The students then read all the words they had written 'ad, sad, pad' before going on to the next word 'dad'.

- Printing to develop awareness of beginning sound in words

All the teachers utilized printing in their daily language arts routine. Teacher F introduced the letter 'A' by asking students to tell all the words they could think of that started with the 'A' sound (she modeled the short and long sound). As children called out words she recorded them on chart paper: apple, Austin, Asha, Anne of Green Gables. On the word wall she showed the capital and lower case 'A' and sight words beginning with 'A': am, a, and. She modeled how to print an 'A' and asked students if it is upper or lower case. The teacher then acted out a word that began with 'A' - alligator. Some students guessed monster and crocodile. The teacher guided students to the correct answer by asking if monster and crocodile start like the 'A' sound. The students then did a printing worksheet of the letter A.

Table VIII

Phonological Awareness Experiences: Segmenting and Blending

Aural / Visual / Kinesthetic Experiences	Observed and Reported Teacher Practices
Breaking apart words into sounds	Elkonin Sound Boxes are used to assist students in hearing each sound in a word and making a mark in a box for each sound heard. For example, shed has three phonemic sounds; *sh-e-d*. Teachers orally break down words during the writing process to assist children with spelling words. Students need to hear each individual phoneme in order to begin spelling independently.

Segmenting and Blending: Aural / Visual / Kinesthetic

- Breaking apart words into sounds

Teachers used Elkonin Sound Boxes as a strategy to assist students to hear the individual sounds within a word. Boxes were drawn and manipulatives were used to place in a box for each sound heard. For example, 'shed' had three phonemic sounds, 'sh-e-d' so the student would place an object inside three boxes to show the number of sounds heard "*[W]hen children are really struggling with sounds, to do a little bit of the 'Elkonin Sound Boxes', again taking a word that they may not be hearing the sounds of and breaking it into the chunks, into the sound chunks, and moving tokens for those sounds at first and then recording those sounds and then taking that word back into their written work . . . that seems to have worked for some children*" (Teacher F).

"*I would use that technique [Elkonin Sound Boxes], but not with all children all the time, but I would use that technique with some children which gets them to listen to the sounds . . . but in a more general way. I use chalkboards and they just make the box and they can do that with consonant, vowel, consonant words, which is usually where to start, and then they can just push their finger up, and the finger makes a line, so they try and hear the sounds and look at pictures. I show them a cow and they try and 'How many sounds do you hear?' ' three' and I say the word 'ccc-ooo-www' instead of 'c-ow'. You know, blending it together slowly and eventually they can put a 'c'*" (Teacher E).

Teachers also broke apart words orally to assist students with writing new words. "*I try to do some work of saying the word slowly and breaking the word apart. I tend to do that more when I'm modeling writing, even when we are brainstorming for an idea or something. Two or three times within the brainstorm I will break the word into sounds and work on how to write the sounds of this word. I'll pretend I don't know it. Or if we can come across, 'Oh that word sounds like such and such. We know how to spell such and such, don't we?' Or when we are doing shared writing I'll be getting the kids to give me ideas.*

'How can I write this word? Who remembers how to do this? This is one of our sight words. Who thinks they can tell me how to write it?' That kind of thing, really try and get the kids actively involved when I'm doing my writing especially at the beginning of the year. As the year progresses they become more and more independent and I do less of that. Even at the end of the year I'm still doing that kind of thing with the kids, only of course I'm working on harder skills. I'll pick a word that has 'ou' in it or 'ar' you know that kind of thing, harder words" (Teacher D).

Teacher F discussed the importance of sound to letter associations. *"What I find is that there has been far more emphasis in the materials that are published on letter-sound, I feel, than on sound-letter. You know they aren't just hearing what can we hear in 'man' and on letting them not just talk about the letter. Do they hear 'mmm-aaa-nnn'? Do they hear there are different sounds in that word and not worry that I hear (letter names) 'm-a-n' but that I hear (letter sounds) 'mmm-aaa-nnn'. . . I think we need to work at both ends all the time as teachers. I think that what has been presented to us is a bit formal. Introducing the 'm' first and giving it a name and printing it and then talking about 'm' is a 'mmm' sound and color all the things on this sheet that have 'm'. And there is nothing wrong with that but we need to turn over to the blank side as well and listen to the word and what do we hear in the word, because I think children need to be aware of both things."*

SYMBOL

Reading Experiences

The early childhood teachers in this study devoted the majority of their language arts time to reading experiences. They incorporated many different practices to provide students with numerous opportunities to develop reading skills and strategies. Table IX explained reading practices used by early childhood teachers followed by discussion of these practices.

Table IX

Literacy Experiences: Reading

Reading Experiences	Observed and Reported Teacher Practices
Quality Literature	Teachers are committed to reading at least one quality story to students every day.
Choosing a Book	Teachers provide students with skills to choose books they can read independently.
Home Reading	Students take books home every evening to read with their families. They exchange them the following day. The books are carefully leveled to meet students' reading ability and ensure they are successful.
Shared Reading	Teacher directed reading in which students become actively involved in print. It becomes a mini-lesson on reading skills. Students look for phonics and punctuation, and are asked comprehension and prediction questions.
	Students share home reading books with parents, volunteers, classmates, and teachers. This reinforces what they already know and they develop increased confidence as readers.
	Morning message written by the teacher is read together and mini-lessons are directed by the teacher.

Reading Experiences	Observed and Reported Teacher Practices
Guided Reading	Teachers take small groups of students with similar reading abilities for instruction in reading and to further assess students' reading progress.
Word Wall	A board of common words students use in their writing, such as sight words and theme words. The words are listed alphabetically.
Reading Centres	A variety of centres set up to develop reading skills. Students work independently at these centres.

Reading Experiences

- Quality Literature

All teachers set aside a portion of their day to read quality literature to the students. "*We read good children's literature as well as non-fiction books. I tried to do this the last thing every day. We read largely for enjoyment, though I would sometimes treat the story as a 'cloze' and get the children to predict what would happen next, did the character do the right thing etc. It was a lovely way to end the day*" (Teacher D).

They felt it was a necessary part of their program to expose students to a variety of literature. "*At least two books are shared orally, picture books, because I think that children need to be exposed to quality literature. So much of our beginning books for children, beginning readers, are so predictable, and they need that, but it is not really quality literature, so you have to expose children as well to wonderful stories, wonderful poetry . . . expose them to a variety of poets and works by wonderful authors, so at least two whole class readings a day*" (Teacher F). Teachers also utilized this time for mini-lessons on book structure "*What is the cover of a book called? What does the word author mean?*", prediction skills, "*What do you think this book is about? Where can you get a clue from?*", and reading strategies "*Good readers think about what makes sense in the story - you can make good guesses.*"

- Choosing a Book

Teachers in this study utilized as many strategies as possible to enable students to become successful readers. These three teachers felt that choosing a book at an appropriate reading level was one more step towards developing good reading skills. "*One of the first lessons I teach them is how to choose a book. I also teach them the five finger method. I don't know if you know that, but later on if you pick up a book and you can't read five words, that book is too difficult for you so, put it back and take another book. I teach them quite a bit about books. How to look at books. For instance to open the book, don't just* *look at the front cover and the back cover. Many children's books, the front cover and the back cover, they go together. I try and teach them things about that to 'hook' and to like the book. I think if you chose a book that you like and that you think you can read, you do a better job. That's what we do when we go to the library"* (Teacher E).

- Home Reading

All the teachers had a home reading program for students. Students would chose a book to take home and practice reading with their families and then return it the next morning. "*Another important part of my program was the 'Read at Home' program. My school had quite a good collection of small books from the library. I sorted the books into easy, medium and harder books and let children choose books from a level that they would be able to read from with little help. Read at home books were exchanged daily and I encouraged students to take three short books or one longer one. Last year, I found a method of doing the Read at Home exchange that was very successful. In other years, when I had offered prizes and recorded the books read, two thirds of my class participated in the Read at Home program. However, using my new method, about 90% of my class participated regularly. In the new method, the students began each morning by reading the Read at Home books that they were returning to a partner. This had three effects; the students practiced reading a familiar book, they were motivated to try to read the books well, the partner heard the books and so got hooked into the book and wanted to take it home as well. Since the students had already heard the book read, they were able to read it more successfully at home than they would have been able to read an unfamiliar book. The students chose their own Read at Home books and often a popular book would have a long line of children waiting to have a turn at taking it home. It was very exciting to see the children talking about the books. I let the students choose who they would like to read with. To do this I divided my class in half according to reading ability. The less able readers would choose a partner from the group of more able readers and then the next day, the more* *able readers would choose a partner from amongst the more able readers. In this way, the less able readers were partnered by some one who was able to provide a good model for reading, as well, as help. Only children who brought their books back were eligible to choose a partner"* (Teacher D).

In all classes, during shared reading time, students had the opportunity to read the book again to someone else. *"The children feel so proud that they have read or practiced this book at home, and the fact that they are re-reading it to at least two other peers, plus an adult in the room, be it myself, the aide, or classroom volunteers, really helps to strengthen those beginning literacy skills and the sense that they are readers, whether it's a memorized text or they are really doing some decoding, they feel like readers in the room"* (Teacher F).

- Shared Reading

Shared reading was also a daily component in the reading program of the classrooms observed. It differed from simply sharing quality literature in that students were actively involved in the reading process. *"A shared reading would be a poem, or I try and use also a lot of singing in the classroom, so it would be a poem that we would later sing or a book that the children can see, so they are part of the text. So a shared reading text versus just a whole group of oral reading is that the children are looking at the text, whereas, I just call it a general oral reading would be maybe me sharing a picture book, but the children aren't really involved in reading the text or looking at the print, but shared reading they have to have an opportunity to look at the print. . . shared reading opportunities would be really to emphasize skills, number one, that I feel all the children needed at the beginning of the year, a sense of story and really for me at that time, it is emphasizing the enjoyment of reading"* (Teacher F).

Often the teachers would begin the day with their students sharing familiar books with parents, volunteers, other students, and even stuffed animals. Teachers felt the idea was to get students looking at print and feeling that they were readers. Teacher E described her program; *"It is parents reading with children, to children, the whole gamut depending on* *what the children can do. We do that for about the first 20 minutes every morning. Then after that we have some shared reading - sharing big books, sharing poetry, the sort of thing, sharing little books. whole group activities, but the first part is more one-on-one. It is like independent reading but there are about six to eight adults in the classroom and they just move from child to child reading with them. They read with their own child if they come. There is no set time, I just do it all year long and the parents know that the first 20 minutes of the morning is shared reading time to do with parents."*

The teachers felt the success of students sharing books with others hinged on students being able to cope with the text in their book. They addressed this by assessing the literacy level of each student and then having books categorized into levels based on a list of criteria. These books were placed in classroom libraries and students chose books to read from their library level. Teacher E described the leveling process. *"My first priority is to get them to read - that they do reading and I think the most significant factor in helping that to happen is that you have your books in your classroom 'well-leveled . . . you need roughly 2,000 books in a grade one classroom to really provide the leeway to do what I am wanting to do . . . [books are leveled according to] where the text is placed, what the story line is like within the book, whether there is a strong story line, whether the pattern is there in the text, how many words are in the book, how many lines of print are in the book, how much picture support there is in the book, how familiar the book is to children - is it a topic that is familiar to the majority of children. That makes it an easier book than if it's an unfamiliar topic. . . I then try to direct the child towards the books that are very close, you know they are 95% fluent already, in those books . . . I just immerse them in print."*

A Morning message written by the teacher on the board was another strategy all teachers used as a shared reading experience. The teachers would print a message to the students and they would read it together. During a classroom observation, Teacher F read the morning message with the students: students put up their hands to read the message. One student was chosen to read and pointed to the words 'I like your reading'. The teacher asked "*How many words are there in this sentence?*" Students counted the words. "*What is the symbol at the end of the sentence?*" Students said "*period*" and pointed to it. "*Why do we use periods? So you get to have a little break, like a stop sign. How many letters make up this sentence?*" The students counted 16 letters. "*How many spaces between the words*" The students counted 3 spaces. "*Would it make sense if I didn't put spaces?*" Teacher F demonstrated by writing the sentence without the spaces. "*If I take away the 'you(r)' what word is it?*" She pointed to the word wall for reference to the word 'you'. Many strategies were used in this lesson, from word awareness, breaking words, punctuation, and sight words.

- Guided Reading

Guided Reading was a small group activity with students and teacher. Students of similar abilities were grouped together and met with the teacher once or twice a week for concentrated reading assistance. The groups were based on individual needs in reading. For the teachers, Guided Reading was something they had been introduced to through professional development activities, but were still struggling with implementing the actual process in the classroom. "*My biggest struggle is making sure my other children are focused at centres or whatnot and that, okay, this is my busy time and you hold up the little card, 'teacher is busy'*" (Teacher F).

Teacher E demonstrated this process during an observation; A small group of five students each brought three books, a reading folder and crayons to the back table. On a small white board the teacher had written 'it' and surrounded it by letters 's, f, h, b, l, gr, spl'. The students made words from these combinations. Next the students read the same book together with the teacher. They each had their own copy of this book. New vocabulary and sight words were written down by the students and they drew pictures beside the new words to help them remember the meaning of the word. The teacher checked the reading level of one child while the other four students read quietly, did worksheets and colored.

- Word Wall

Each classroom had a word wall prominently displayed. Words were added throughout the year based on student needs. "*In the beginning of each year we start a word wall. The word wall contains common words that the students use in their writing, especially sight words that we have worked on.*" (Teacher D) "*One thing I am really working on that I am feeling much more comfortable with, and I think that is maybe a key, is the word wall by Cunningham. I had a lot of success trying that last year, and I would like to focus more on that to integrate phonics and sight words, because I think it makes more sense to kids, and it is words that are so immediate in our classroom experiences that are put on that word wall. They start associating more in context if we are studying say pirates, and that is a 'p-p-p- pirates', oh, it's under the P on the word wall, and I think, yeah, that is a better system perhaps than teaching phonemes in isolation*" (Teacher F).

- Reading Centres

In order for the teachers to free up time to do guided reading, they had literacy centres set up in the classroom for the students to work at independently and to make choices about their learning. Centres changed throughout the year to continue to challenge the students and to remain motivating and exciting. The centres at the beginning of the year varied from class to class but consisted of the following:

- Independent/ Partner Reading: Students chose classroom books to read alone or with a partner
- Listening Centre: Students listened to a book on tape
- Word Centre: Students used magnetic letters on a magnet board to create words
- Big Book Centre: Students read big books alone or with others

- Reading Response: Students drew or wrote a response to a book they had read

- Worksheets: Students did worksheets based on reading directions/ printing/ letter sounds etc.

- Sight Words: Students practiced reading sight words with a partner

- White Board/ Chalk Board: Students practiced reading and writing words on the board

- Word Scramble: Cards with mixed up letters where students tried to unscramble them to make a word

- Rhyming Words: Students chose a word card and tried to use letter cubes to create rhyming words

- Word Chains: Students chose one word and tried to make new words by changing one letter

- Word Cloze: A message with missing words or letters in it and students try to fill in the missing components

SYMBOL

Writing Experiences

Writing experiences were an integral part of the grade one classrooms observed. Teachers in this study utilized a variety of practices to encourage the development of writing skills in students. They felt that writing and reading were tied together and that writing came naturally out of reading experiences.

"You have to have a special key for each child that unlocks their passion to write, and I think that is the most important thing, particularly in the beginning years, is to create and establish that wonderful love for literature and that freedom that they can write. . . I think we tend to, or parents tend to get hung up on spelling or proper formation of letters and the most important thing is that you develop that passion to write. We can work on the editing, we can work on those other mechanics, but if children feel inhibited to write, it is such a struggle to get them to become writers" (Teacher F). Following are observations of writing experiences that students were involved in during the beginning of the year.

Table X

Literacy Experiences: Writing

Writing Experiences	Observed and Reported Teacher Practices
Shared Writing	Teacher directed writing in which students become actively involved in the writing process. It becomes a mini-lesson on writing skills such as writing the daily news shared by students or creating class books. Students are encouraged to spell words, use appropriate punctuation and sentence structure and check for meaning.
Journals	Journal writing takes many forms. Student writing may include letters, lists, artwork and reflections.
Story Response	Students respond in writing to a story. Connections between personal experience and story experience are encouraged.
Pattern Books	Predictable, teacher created books that assist beginning writers to develop writing skills. Students fill in words and follow a set pattern such as "I see a green _________."
Writing Centres	A variety of centres set up to develop writing skills. Students work independently at these centres.

Writing Experiences

- Shared Writing

Shared writing is similar to shared reading in that it is a whole group experience and teacher directed. Teacher F used 'News of the Day' to demonstrate shared writing with her class. *"Another component that I have in the program, a routine, and it varies slightly as their skills increase, would be a daily new program or element where the children would share something of their own life that they felt was valuable. It might be the loss of a tooth the night before or it would be anything of personal interest to them."* This process was demonstrated during an observation; *"Who could help me spell 'Thursday'?"* A student helped by looking at the calendar and saying the letter names to spell Thursday. The teacher wrote the letters. *"Why did I start with a capital letter for 'Thursday'? Why do we use capitals for the beginning of people's names?"* The students responded *"Because they are special."* The teacher continued writing the date and explained that the short form of October is Oct. *"Who has news for me today?"* Students orally told news and the teacher wrote what each student said. She got the students to spell their own names for her. Students practiced writing some of the words in the palm of their hand with their pointer finger. *"If I want to say 'Austin's puppy' what do I need to write?"* The students responded 's'. *"What three letters make 'ing'?"* Students listened as the teacher sounded it out. Students wrote 'ing' in their palm while saying the sound. The teacher had the students check the word wall for the spelling of sight words 'to' and 'is'. She guided the students to spell 'when' by saying 'w' like in 'witch'. *"What do I need at the end? - Yes, a period!"*

She described this writing process as *"meaningful writing, meaningful reading, but they contribute the ideas so they are partners with me, but I use that opportunity to focus on sentence structure, if we are writing someone's name, oh well, what does Natalie start with- 'nnn' - to really incorporate some of the phonics at the beginning, and then as the year progresses, I have the children write the news... they share the news in front of the whole class eventually, it may be edited, but they feel great ownership."*

As in shared reading, many skills are modeled to the students by the teacher with the students actively involved in the writing process.

Teacher D created class Big Books based on student's ideas. "*We made several books where the class would compose a story which I would scribe on 11x17 paper and then each child would illustrate one page. Then we would put the pages together and use it as a big book for reading together. The book would go in our class library, so that it would be available to the students to read. They were quite popular. At the end of the year, we had enough stories for everyone to take one home as a souvenir. I think that this was a valuable activity because it modeled the writing process to the students.*"

- Journals

Journals took many forms in each of the classrooms. Teacher F relayed her method of incorporating a journal into her writing routine. "*In terms of writing, other than story response, we do journaling in grade one. Certainly, we have different types of journaling. I think for a long time, I was stuck and I got bored with journaling and didn't realize, oh well, a journal doesn't have to be written in the dear diary type of from. Everything from lists to even just really incorporating art into our journals more so than I think we allow children at the beginning of the year.*" Most importantly, these three teachers felt that they must practice what they preach. "*I think the teacher has to have a passion for books and for writing and model that to their students. When you have a journal time, that the teacher is writing because it means so much to the child*" (Teacher F).

- Story Response

After reading a story either independently or listening to the teacher read, students wrote a response to the story. "*They would respond in written form to the text to really give them a voice in terms of how they reacted to a certain piece, if they liked it, can they relate it to something they know?. . . Particularly if it is a wonderful piece of literature, it really acts* *as a spark to carry them through to compose, because I really think that reading and writing are really linked together, even if in the beginning of the year it's them drawing a picture response, it is still responding to the text*" (Teacher F).

- Pattern Books

The three teachers used pattern books at the beginning of the year to assist students with their writing. These were books that had a predictable format and students filled in words and eventually sentences following the set pattern. (i.e. I see a green _______.) "*[The pattern books] had places for the student to write some of the words. As the days went by the students would have to write more and more of each book on their own. These little books that I have made really help me to teach emergent reading skills such as one to one matching, directionality, the concept of word and letter, using picture cues, using meaning, syntax, using the initial letter sound as a cue for the word, recognizing sight words. The books get a little harder and more complicated as we go along*" (Teacher D).

- Writing Centres

All the teachers in this study had a writing centre in their classroom. The concept of allowing children choices in the writing centre was universal. "*Someone at a centre. . . might just be creating a form or letter using playdough. Someone else might be writing a letter to a story character . . . it focuses on children as writers and giving them a voice in what they wrote rather than having all these numerous projects where it's Halloween time, we're all going to write on cats. . . you have to provide wonderful instruments for them to write with, whether it's smelly markers or sparkle crayons or having a little art centre in your room, you need to provide that variety because not every child will be motivated based on a literature experience*" (Teacher F).

Summary

From the data, it was clear that literacy instruction in the grade one classrooms investigated in this study was an immersion of language. Students were actively involved in meaning-making with visual and auditory modalities almost all of the time when working on reading and writing activities. The connection to print was seen as vital by all three of the early childhood teachers. Research (Ball & Blanchman, 1991; Bryant, Maclean, Bradley & Crossland, 1991; Lundberg, Frost & Peterson, 1988; Bradley & Bryant, 1985, 1983) supported the premise of integration of sound and symbol by demonstrating that attending to the visual aspects of words enhances the student's auditory growth and speeds students along to becoming readers and writers.

PART THREE:
COMPARISON OF SOUND-TO-SYMBOL PRACTICES IN MUSIC AND LANGUAGE

Upon synthesizing data in sound-to-symbol practices from both music and language literacy, it became apparent that there were similarities, but also a striking number of differences in the way music specialists and early childhood teachers approached the teaching of literacy to grade one students. From the review of related literature, many studies and theories proposed similarities between literacy learning in music and language (Dunbar-Hall, 1991; Sloboda, 1985; Stern, 1972; Monroe, 1967). Therefore, it was assumed that successful teaching practices in one discipline might be very similar to teaching practices in the other. Results from this study however, indicated that this is not necessarily the case. First, similarities between teacher practice in music and language will be highlighted in this chapter, and the discussion will conclude with analysis of the differences.

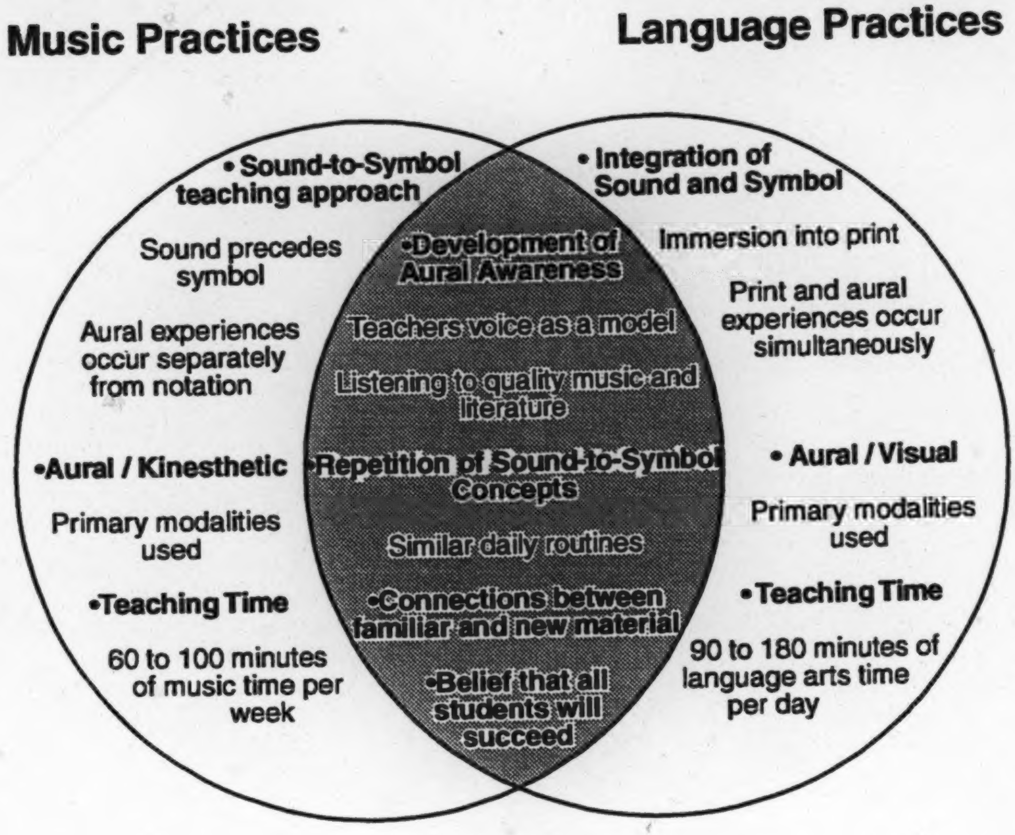
Music Practices
Language Practices
• Sound-to-Symbol teaching approach
Sound precedes symbol
Aural experiences occur separately from notation
•Aural / Kinesthetic
Primary modalities used
•Teaching Time
60 to 100 minutes of music time per week
•Development of Aural Awareness
Teachers voice as a model
Listening to quality music and literature
•Repetition of Sound-to-Symbol Concepts
Similar daily routines
•Connections between familiar and new material
•Belief that all students will succeed
• Integration of Sound and Symbol
Immersion into print
Print and aural experiences occur simultaneously
• Aural / Visual
Primary modalities used
•Teaching Time
90 to 180 minutes of language arts time per day

Figure 1.

Comparison showing similarities and differences between Sound-to-Symbol teaching practices of early childhood teachers and music specialists with grade one students.

SIMILARITIES

Sound-to-Symbol Practices in Music and Language

In this study, teacher practices and beliefs about how students develop literacy in music and language have common ground in several areas; development of aural awareness, repetition of sound-to-symbol concepts, connecting knowledge, and a belief and confidence in student ability. Each of these will be discussed further.

Development of Aural Awareness

The music specialists and early childhood teachers in this study incorporated the aural modality in everything they did with students. Listening was seen as an important skill and being able to discriminate sounds in the spoken or musical language was viewed as significant. Studies reviewed in Chapter 2 support the premise that aural skills are important to literacy learning in both music and language. They demonstrated that the auditory modality was the primary means to develop phonological awareness or musical phonological awareness (Fox, 1996; Treiman, 1991; Grutzmacher, 1987; Petzold, 1960). Practices observed by both music specialists and early childhood teachers in this study reinforce this premise.

The six teachers also shared quality music and literature with students on a regular basis to further develop aural skills. The concept of quality, was teacher imposed, meaning teachers determined, based on personal choice, what they shared with students. Following are common practices the teachers used to develop aural awareness in both music and language.

- Teacher's Voice

In both music and language, the teacher's voice as a model for sound and pitch was viewed as a valuable guide for students. The early childhood teachers broke words down and sounded them out, giving examples of letter sounds, and assisting students in hearing words, syllables, and phonemes within language. "*I try to get a good balance between interacting and listening. One of my driving goals as a teacher is to try to keep every child in my class actively involved in their learning On the other hand, it is also important to teach good listening skills, so I try to hit a happy medium between talking and listening*" (Teacher D).

The music teachers broke down songs into segments of notes and assisted students in hearing and matching musical segments. These teachers believed that students begin developing phonological awareness and musical phonological awareness through listening to the teacher's voice for the components of sound that make up the whole. "*I do a lot of modeling of different voice sounds so that they can hear in my voice what the difference is. I find that some children can't distinguish that for themselves, in their own voices, but when I model something that sounds like a talking voice it will eventually come through in a more subtle kind of way*" (Teacher B).

- Listening to quality music and literature

The teachers in this study believed strongly in sharing examples of quality music or literature with students every class. Students were exposed to teachers' choices of wonderful stories and beautiful music to provide them with further aural development and a sense of joy in experiencing more sophisticated listening experiences.

The early childhood teachers expressed the importance of quality literature as follows; "*Another thing I did every day, was to read out loud to the class. We read good children's literature, as well as non-fiction books. I tried to do this the last thing every day. We read largely for enjoyment . . . It was a lovely way to end the day*" (Teacher E).

"At least two books are shared orally, picture books, because I think that children need to be exposed to quality literature. So much of our beginning reading books for children . . . are so predictable, and they need that, but it is not really quality literature, so you have to expose children as well to wonderful stories, wonderful poetry" (Teacher F). Teacher B described the importance of listening to exemplary musical models by stating *"students need to hear a quality example of good singing every day."*

Repetition of Sound-to-Symbol Concepts

The music specialists and early childhood teachers in this study incorporated many ways for students to practice literacy skills within the classroom. Repetition of familiar material was utilized by the teachers in every class, building on past lessons and reinforcing skills learned.

It was observed that students in this study were exposed again and again to the familiar. They sang the same songs over and over. They read the same story many times to many different people. This appears to give students opportunities to build confidence in what they know and to feel successful with what they can do independently. Classroom routines were observed as being an important component in providing repetition and practice of sound-to-symbol skills and concepts. Following were practices observed that appeared to reinforce repetition of sound-to-symbol concepts.

- Repetition in Music classrooms

In the music classrooms, it was observed that similar routines were followed each day:

Vocal warm-up: this included greeting songs, vocal sounds, and solfege pitch matching

Echo Clapping: this included clapping back rhythms and using body percussion such as snapping, clapping, patsching and stamping

Learning New Material: this included songs, instrument parts, movement activities and reading and writing skills

Review of Familiar Material: this included transferring concepts such as beat from new material back to familiar material, repetition of familiar songs and closure to the class

Repetition of musical concepts were integrated throughout each class. "*The things that I start out with might be something that I am reviewing from the last class, then move into games . . . during the class it kind of builds into a hill formation. You know you have the warm-up, you do the things you are really going to sink your teeth into, in terms of teaching, if it's a specific rhythm thing you want to work on - that's where it will happen in the class, then from there on it will come down the hill to where you can do some reviewing of things, you can do some reinforcement of things and have more of the kind of calming activities at the very end*" (Teacher B).

- Repetition in Early Childhood classrooms

The students in the early childhood classrooms followed the same routines each day and were given numerous opportunities to practice literacy skills in a variety of ways. It was observed that classroom routines consisted of the following:

Home Reading: students took home books to read, practice and re-read again the following day

Shared Reading: teacher and students read text together such as a morning message or a story

Guided Reading: small group reading activity with the teacher

Reading and Writing Centres: students chose independent activities reinforcing literacy skills

Printing/ Writing Activity: students worked on a writing task

Story-Time: teacher read aloud a selected piece of quality literature

A variety of strategies were used to practice literacy skills, particularly reading. Teacher F described the importance of routine and repetition. "*One of the key elements every morning to my program is our home reading time, and that is the time where the child will re-read a book that they have taken home the night before, and it is such a valuable learning opportunity, because the children feel so proud that they have read or practiced this book at home, and the fact that they are re-reading it to at least two other peers, plus an adult in the room, be it myself, the aide, or classroom volunteers, really helps to strengthen those beginning early literacy skills and the sense that they are readers, whether it's a memorized text or they are really doing some decoding, they feel like readers in the room.*"

Connections between familiar material and new material

During classroom observations, it was noted that familiar songs or stories were used to generalize sound-to-symbol concepts to other songs or stories. The six teachers believed that students were able to make connections among concepts and apply concepts to other situations.

In music classrooms observed, concepts such as beat, rhythm and pitch were generalized to other songs. If students were practicing beat, they would sing through familiar songs and new songs keeping beat during all of them. Teachers would build on this by having students look for patterns within songs, such as songs that contained the same number of beats.

In early childhood classrooms observed, concepts such as familiar words or sounds were generalized to other words or sounds. If students were involved in shared reading, the teacher might have children look for words beginning with the same sound, look for words on the word wall that begin with that sound or find words within words, like when and hen, to assist students to find sound commonalties within words.

A belief that all students will succeed

All the teachers expressed a belief that students can and will succeed, they just needed time, maturity or experiences on their side. They expressed confidence that students would succeed and achieve if they were given encouragement and the necessary skills to do so. "*I believe that if you afford children lots and lots of opportunities throughout the year to work on all of those skills that you have a better opportunity than to try and force a specific skill at a specific time because that's what you're teaching. If they are not quite ready for it, yes, they may be left behind, until they are ready to do that. That doesn't mean that they're not ready to learn something else that you're doing. So, I think you just keep the flow going and you keep open for them to keep trying*" (Teacher B).

The teachers felt it was their job to ensure these students did succeed. "*I used to feel that a lot of literacy development was related to a child's cognitive maturation, and now I don't really have that belief. I really feel that that might be in some cases a cop-out, that it is my job to do my utmost to get everyone reading at the appropriate end of grade one reading level. I may pull out my hair trying to do it, and that is why it's wonderful to have safety nets like reading recovery to untangle the puzzle for those one or two children who don't seem to be catching on, but really schools have to do their utmost to get kids at the beginning, grade one, grade two, or else it is too late*" (Teacher F).

The teachers felt that persistence and perseverance would result in success, and they celebrated those successes when they occurred. They expressed a genuine passion for learning, both for their students and for themselves. They modeled that commitment of being a life-long learner and conveyed this to students through example. "*I think professional development for teachers and personal involvement in the music community and music activities I think is really important too. I try to present to my children that I am a learner. I'm on the same mountain that they are on and we are all climbing. We may be on different routes, but we are all climbing and we are all working hard. My goal may not be the same goal as for a child, but I want them to know that I set myself goals every year in my* *music education, for myself, in my musicianship, for myself and so I want to present myself to the children as a learner too"* (Teacher B).

DIFFERENCES

Sound-to-Symbol Practices in Music and Language

Differences emerged from the data regarding the sound-to-symbol teaching process. In many instances the early childhood teachers and music specialists in this study did not utilize similar strategies when developing literacy skills. The following differences will by analyzed; sound-to-symbol approach; aural, kinesthetic and visual modalities; and teaching time.

Sound-to-Symbol Approach

Comparison of the data showed that the three music specialists and early childhood teachers did not follow a similar teaching approach. The music specialists proceeded in a very sequential sound-to-symbol process, while the early childhood teachers integrated sound and symbol within their daily routine.

- Sound-to-symbol practice in music classrooms

Music specialists in this study described their teaching approach as a sound-to-symbol progression such that the teaching of musical phonological awareness concepts appeared to progress through a very sequential process, beginning with beat, moving to rhythm and then introducing pitch. Beat, rhythm and pitch were presented aurally and practiced until the teachers felt students were sufficiently prepared before introducing the visual symbol system of notation. It was very much an aural approach.

When learning a song, students did not experience seeing the complete musical score. They worked on components of that score in a simplified fashion, such as a Big Book displaying rhythm notation of a song, but students were not exposed to the formal notation in its entirety.

Of the three music classrooms observed, only one had music notation displayed in the room. When this teacher was asked about the notation and using it with grade one students, she replied: *"I haven't done a lot with actually showing them the music. . . I notice now I have a lot of student text books, but quite often I don't [use them]. . . I will put the words up, but I don't usually write the rhythms in for the grade ones"* (Teacher D).

Sound-to-symbol in early childhood classrooms

In contrast, early childhood teachers in this study described their teaching process as an integration of sound and symbol in that literacy concepts such as phonological awareness were presented in conjunction with the visual text. Everything was integrated with the printed symbol. Phonological awareness was accomplished by looking at text, analyzing components of text and having students manipulate the text. It appeared these early childhood teachers immersed students completely in the printed word. They provided multiple opportunities and experiences for students to practice skills in reading and writing. Most importantly, they believed their role was to enable students to become literate and encouraged that belief and confidence in their students. Literacy was felt to be the most important goal.

Within the grade one classrooms, print was everywhere, from poems to the word wall, labels on items around the classroom and literature. Their classrooms were alive with meaningful print that students interacted with on a daily basis.

- Aural/ Kinesthetic and Aural/ Visual

Both music and language were developed using the aural modality. From there, music specialists used the kinesthetic modality to further enhance music sound-to-symbol practices while early childhood teachers used the visual modality to further enhance emergent literacy development in their students.

Music specialists felt that students needed to hear beat, rhythm and pitch, and to feel it with their whole bodies. Movement was used by the music specialists as an integral part of the music class. Aural music experiences were almost always accompanied by movement activities. However, the visual modality was used infrequently when compared with early childhood practices. Music specialists in this study did not utilize reading experiences to the extent that the early childhood teachers did.

In early childhood classes, aural and visual were the predominant modalities used. Students not only heard the spoken word but saw the corresponding print and this was integrated into almost all literacy activities. Using visual cues to assist students in making connections with print and the spoken word appeared to be an integral part of literacy experiences in the grade one classes observed. However, the kinesthetic modality was used infrequently when compared with music practices. Early childhood teachers in this study did not utilize movement activities to the extent that the music specialists did.

- Time Factor per class

The music classes observed ranged from sixty minutes per week to one hundred minutes per week, in contrast to language arts being a minimum of ninety minutes per day as well as integration of language arts into other subject areas such as social studies and science.

Summary

This chapter described procedures related to analysis of data and discussed the findings. From these findings the following categories emerged: Musical Phonological Awareness Experiences, Phonological Awareness Experiences, Musical Literacy Experiences and Literacy Experiences. These categories were analyzed for similarities and differences between teaching practices of music specialists and early childhood teachers. Emerging from this analysis were similarities that included development of aural awareness, repetition of sound-to-symbol concepts, connecting knowledge, and a belief and confidence in student ability.

Upon further comparison of both music and early childhood programs it was discovered there were significant differences in sound-to-symbol approach, and to a lesser extent, differences in aural, kinesthetic and visual modalities used and teaching time. Implications for teaching practice will be discussed in the final chapter.

CHAPTER 5

DISCUSSION

Overview

A brief review of the study and an outline of the findings are presented in this chapter. Discussion of the findings and implications for teacher practice in both music and language are presented. Suggestions for future research are given.

Review of the Study

The main purpose of this study was to collect and describe sound-to-symbol pedagogical practices that guide grade one students through emergent literacy to independent reading in both music and language. I became interested in pursuing this study after teaching both music and early childhood over a period of four years. I was intrigued by the similarities between music and language, how children learn and how I taught both subject areas. This interest developed into a search for common ground between music and language literacy. It appeared that moving from the sound of language or music to the symbol system of language or music seemed to be the natural progression for children to learn and for teachers to teach.

Upon reviewing literature connected to this topic, it became apparent that phonological awareness and musical phonological awareness may be the key to how children learn literacy. Phonological awareness was defined as a conscious awareness that language can be separated into components such as words in sentences, rhyming units within words, beginning and ending sounds of words, syllables in words, phonemic awareness, and the ability to physically produce these sounds (Eldridge, 1995). For the purpose of this study I defined musical phonological awareness as a conscious awareness that music can be subdivided into sequences of sound patterns (i.e. ta, ta, ti-ti, ta or la, sol, mi) which are equated with notational symbols and are characterized by beat, rhythm and pitch. After determining that there was an absence of research in teacher practice regarding sound-to-symbol practice in the classroom, specifically phonological awareness and musical phonological awareness practices, the following research questions were designed to guide the study.

1) What were the sound-to-symbol pedagogical practices used by early childhood teachers and music specialists to guide grade one students from emergent literacy to independent reading?

2) Of those practices, which activities were used to promote phonological awareness or musical phonological awareness?

3) What were the similarities and differences in sound-to-symbol pedagogical practices between music and early childhood? Could practices observed in one area be applied to the other?

Data were gathered through interviews and observations of three music specialists and three early childhood teachers who were currently working with grade one students in their classrooms. The music specialists and early childhood teachers chosen had previously been exposed to current methodological approaches which related to teaching literacy from sound-to-symbol. The music specialists had taken coursework at the master level in the Orff or Kodály approach. From the literature review in Chapter 2, these teaching approaches were described as developing musical literacy using a sound-to-symbol process. It was also presumed that these were the predominant approaches adopted by elementary music specialists within the school systems used in this study. Of the three music specialists chosen for the study, one had a masters level in the Orff approach, one had a masters level in the Kodály approach and one had both Orff and Kodály training at a masters level.

Of the early childhood educators, all three currently taught grade one and were also trained Reading Recovery specialists. From the literature review in Chapter 2, Reading

Recovery was mentioned as a one-on-one teaching approach developed by Marie Clay (1991) to assist students who are experiencing difficulty with the reading process. It was presupposed that teachers who had this training would be aware of and provide specific phonological experiences within the regular classroom and also transfer practices from this teaching approach to classroom literacy activities.

This study was limited by the number of participants and school sites observed. In addition, the teaching approaches the participants adopted biased their teaching practice by shaping thoughts and practices with relation to literacy and musical literacy. The participants seemed very devoted to their particular teaching approach and expressed confidence that their teaching approach was successful and positive for students. However, they were open to new ideas and eager to try new practices with their students, but were absorbed in the teaching approach they were currently using.

Another limitation to this study was that these teachers were observed at the beginning of the school year, rather than throughout the year. The findings only indicate the initial literacy and musical literacy practices used by teachers. It is possible that teaching practices may have changed as the year progressed and students gained more confidence and independence in the development of literacy and musical literacy.

From the data, I endeavored to describe activities that developed phonological awareness or musical phonological awareness from the perspective of early childhood teachers and music specialists. The interpretation of emerging patterns led to an analysis of similarities and differences between music and early childhood sound-to-symbol teaching practices.

Findings

Data collected from observations and interviews of three early childhood teachers and three music specialists working with grade one students, was reduced to categories from which the following themes and patterns emerged:

- Sound-to-Symbol practices of Music Specialists:

Musical Phonological Awareness Experiences

Beat, rhythm, and pitch emerged as the primary concepts music specialists in this study used to develop musical phonological awareness in grade one students. The teachers employed a variety of practices using aural, kinesthetic and visual modalities to advance these concepts, with aural and kinesthetic modalities being the most prevalent. A sound-to-symbol approach was used by all the teachers to develop musical literacy with a definite progression from the aural to the visual. The notational symbol system was not introduced until teachers felt students were sufficiently prepared aurally.

Reading and Writing Experiences: Musical Literacy

The music specialists again focused on beat, rhythm and pitch to develop musical literacy in grade one students. Each concept was learned using iconic manipulatives such as felt hearts and popsicle sticks, rather than formal musical notation. These teachers began with beat, progressed to rhythm and then added pitch. A new concept was introduced once the teacher felt students had gained a good understanding of the previous concept. A variety of teacher practices used to develop musical literacy in the students was outlined.

Although students learned songs first before they began learning the symbol system of notation, the teachers in this study were not observed providing students with opportunities to see the complete musical score for each song they learned. Instead, concepts within the song, such as "how many beats are in this song?" and "how many sounds do we hear on each beat?" were used first with students, as opposed to showing how the concepts of beat and rhythm fit together with pitch in the complete musical score. Of course a limitation to these findings is that the teachers were observed at the beginning of the school year and practices may change as students gain a more complete understanding of musical literacy concepts.

- Sound-to-Symbol Practices of Early Childhood Teachers:

Phonological Awareness Experiences: Phonemic Sounds, Segmenting & Blending

The early childhood teachers in this study integrated phonological awareness experiences with print. Activities were rarely done in isolation of print and often only if a child was experiencing difficulty. Phonological awareness was taught in context whether it was a poem, a story, or children's thoughts and ideas, and was not isolated from the text. Students were actively involved in print and guided by teacher direction. Students searched for beginning letter sounds, familiar words, rhyming words and other components of language within the text.

Reading and Writing Experiences: Language Literacy

The early childhood teachers employed a tremendous number of strategies to assist students in developing reading and writing skills. Everything from home reading programs to shared reading, guided reading and reading centres. Activities were based on creating meaningful experiences for students.

- Comparison of Sound-to-Symbol practices in Music and Language:

Similarities

Development of Aural Awareness

Both music specialists and early childhood teachers in this study described the importance of developing students' aural skills, from listening to the teacher's voice as a model to listening to quality music and literature.

Repetition of Sound-to-Symbol Concepts

Both types of teachers provided numerous opportunities for students to repeat and practice concepts. Familiar songs and stories were revisited and practiced. Different concepts were often explored within the same song or story.

Connections between familiar and new material

All teachers in this study used an assortment of songs or stories to explore a concept. This concept was then applied in a variety of situations such as keeping the beat while singing numerous songs or reading stories and searching for familiar words or letter sounds. Students were then able to make connections in many different situations and apply the concepts learned to new situations.

Belief that all students will succeed

The six teachers felt a strong belief that their students would succeed and that it was the teachers' job to ensure that students did succeed. They felt that by being patient, supportive and encouraging towards their students, success would come. Early childhood teachers felt that all students would become literate, while music teachers felt all students would develop emergent literacy concepts such as beat, rhythm and singing in pitch.

Differences

Sound-to-Symbol and Integration of Sound and Symbol

Perhaps the most surprising difference in this study between music and language literacy practices was the progression that the teachers used to teach literacy. It was the assumption of this thesis that both the music specialists and the early childhood teachers would progress through a sound-to-symbol process as the beginning of literacy development. However, the three music specialists proceeded in a very sequential sound-to-symbol process, while the three early childhood teachers integrated sound and symbol within their daily routine.

The teaching of musical phonological awareness concepts by these specialists progressed through a very sequential process, beginning with beat, moving to rhythm and then introducing pitch. Beat, rhythm and pitch were presented aurally and practiced until they felt students were sufficiently prepared before introducing the visual symbol system of notation. It was very much an aural approach.

In contrast, the early childhood teachers described their teaching process as an integration of sound and symbol. Literacy concepts such as phonological awareness were presented in conjunction with the visual text. Phonological awareness was accomplished through looking at print, analyzing components of print and having students manipulate print. In this study, early childhood teachers immersed students completely in the printed word.

Aural/Kinesthetic modalities and Aural/Visual modalities

In this study, both music and language were developed using the aural modality. From there, the music specialists primarily used the kinesthetic modality to further enhance music sound-to-symbol practices. They felt that students needed to feel the concepts of beat, rhythm and pitch with their whole bodies. The early childhood teachers used the visual modality to further enhance emergent literacy development in their students. They felt that using visual cues to assist students in making connections with print and the spoken word was an integral part of the literacy experience.

Teaching Time

Time allocated in the school day for music and language arts varied greatly. Music classes ranged from sixty minutes per week to one hundred minutes per week. In contrast, Language arts was a minimum of ninety minutes per day. Given the time constraints, it would appear that the music specialists simply did not have enough time to accomplish everything that the early childhood teachers were able to do with literacy experiences. However, the early childhood teachers still felt they did not have enough time to accomplish everything, and often integrated language arts experiences into other subject areas such as social studies and science.

Discussion and Implications for Teaching Practice

It seems that language teachers immerse students in the printed word. They provide multiple opportunities and experiences for them to experiment with constructing meaning in reading and writing and foremost, they believe students are literate and encourage that belief and confidence in their students. With so much research supporting the development of emergent literacy experiences in young children and the large body of research dedicated to teaching practice in developing reading and writing skills, it seems prudent that as educators we look at what has been demonstrated as successful in one discipline and adapt teaching practices that may assist us in another discipline.

From data collected in this study, the following conclusions are made:

1. From the previous discussion regarding literacy development being an integration of sound and symbol, the question arises as to why music and language literacy practices in this study were so different. The answer may lie in the emergent literacy experiences children were exposed to before school. The literature suggests that the development of literacy is viewed as a necessary and important skill in our print oriented society. Children begin to make sense of print at a very early age through interaction with literature in the home, awareness of print in the environment and viewing role models engaged in reading and writing behavior. In contrast, musical literacy does not appear to be seen as a necessary skill in our society. Children are rarely, if at all, exposed to musical notation in the home or environment, thus they come to school with very little experience with musical notation. Teachers must then begin teaching with what the students understand and build upon that knowledge.

2. Both early childhood teachers and music specialists expressed the belief that all students would succeed and that it was their job to ensure this success. However, early childhood teachers expressed the belief that literacy was the most important goal for their students while music specialists expressed the belief that aural development of the concepts of beat, rhythm and pitch was the most important goal for their students. This reinforces previous literature such as Donald Hodges (1992, p.469) who concluded that "As a profession, music educators have never decided whether music reading is necessary or not. Certainly in traditional music performance experiences, music reading is deemed integral and necessary. But in general music, the issue of 'rote versus note' is more than a historical curiosity since there is still disagreement over whether all children should engage in music-reading activities as a basic part of education."

Perhaps musical literacy is not a necessary goal for music specialists to strive towards, but given the similarities in the way children acquire music and language literacy, it seems encouraging that this goal could be achieved by continuing to develop practices that support development of emergent literacy experiences towards reading and writing musical notation.

3. Early childhood teachers in this study approached literacy development as an immersion of sound and symbol. Experiences were presented both aurally and visually with students actively engaged in the printed word. Reading and writing activities were introduced immediately into the classroom routine and were the focus of every language arts class.

Results indicated music specialists in this study approached literacy development as a progression from sound-to-symbol. Concepts were introduced beginning with beat, moving to rhythm and then to pitch. Experiences were presented both aurally and kinesthetically through body movement to enable students to feel the concepts of beat, rhythm and pitch. The notation was not introduced until teachers felt students had gained sufficient aural understanding of emergent literacy concepts. When notation was introduced, it was presented separately from the complete musical score and presented as an iconic symbol rather than formal notation. Beat was introduced as a heart symbol, rhythm was introduced as stick symbols and the staff was not introduced until students had worked with showing high and low sounds with objects, voice and body. This appears to be in direct contrast to literacy development in the early childhood classes observed.

In the grade one language arts classes observed, students were introduced to text immediately and engaged in mini-lessons with the text. The teachers showed the text while reading, and pointed out phonological aspects of the text to develop awareness of letter sounds, rhyming words, endings of words and sounding out or blending words. The teachers wrote what the children dictated and asked for their assistance to spell and find word families and common words. Students read and decoded messages written on the board. Print was an integral part of emergent literacy development in the classroom. Students were involved in multiple experiences geared to developing reading skills.

Results suggest that if musical literacy is a goal, music specialists might want to consider adopting the integration of sound and symbol into their teaching practices. The large body of research dedicated to language literacy and the documented success of many of the practices as outlined in Chapter 2 supports this idea.

In the music class, concepts of beat, rhythm and pitch could be highlighted within the complete musical score. Students could be introduced to the text and engaged in mini-lessons with the teacher showing beat, melodic contour, and rhythm notation while singing. Students might be asked to find similar melodic segments, look for differences in rhythm notation and count the number of beats in a song. Based on the research and the literature review (Choksy, 1997; Campbell, 1991; Hargreaves, 1986; Landis & Carder, 1972) this would be a departure from the Kodály and Orff approaches, two of the most well-known music teaching practices currently used with young children within general music programs in elementary schools across North America. However, good pedagogy constantly evolves and perhaps teachers of music literacy need to consider this option.

4. Unfortunately, the factor most limiting to the development of musical literacy was time. Music specialists received between 60 and 100 minutes of teaching time per class per week as opposed to early childhood teachers receiving at least 90 minutes of language arts time per day. This limits the activities music specialists can accomplish in each class and the transfer from class to class is spread out over the week rather than as a day to day process. Even so, many of the practices employed in a language arts class could be applied to a music class in a more condensed amount of time. Perhaps music specialists could increase the time students spend reading musical notation by having students bring music home in an approach similar to the home reading program. This might contribute to increasing emergent musical literacy development.

Finale

In conclusion, we return to Mrs. Noteworthy and her grade one music class.

Mrs. Noteworthy's grade one students arrive to music class carrying their songbooks. They sit in pairs and sing through the songs in their book while pointing to the notation. After five minutes has passed, Mrs. Noteworthy calls them over to sit in front of a large songbook on a chart stand. She asks her grade one students to listen to the song "See-Saw" while she points to the notes of the song while she sings. She sings the song again and asks the students to listen for parts of the song that sound the same. Students raise their hands. She chooses one. "Yes George?" "up and down and on the ground start and end the same!" exclaims George excitedly. The students look at the rhythm notation and the contour of the melody. Then the students and teacher sing the song while looking at the notation. "Are there any other songs we know that have the same rhythm as See-Saw?" The students think and come up with two more that begin the same way, 'Hey, Hey' and 'Starlight'. The teacher shows the musical notation for those songs and they talk about what is the same and different. The children play games and do movements associated with the songs. Then the teacher hands out pencils and staff paper and asks the students to write *a song like See-Saw but to change something to make it sound different. The students write and some sing through the new song they have created. The teacher circulates and checks the student's work. The teacher hands out the song 'See-Saw' for students to place in their songbook, and the students also place the new song they have written to take home and sing for their parents. They will share this song the next music class with other students.*

This fictional example of teacher practice in music could indicate what the future might hold for emergent musical literacy practices using an immersion of sound and symbol. The direction of this research has taken an interesting turn, and this may not be a direction music specialists wish to pursue in the teaching of music if musical literacy is not the goal. However, it does provide a pathway for a way of thinking about how students may learn musical literacy and how teachers may adapt practices from language literacy into music.

Suggestions for Future Research

1. The early childhood teachers in this study had additional training as reading recovery specialists. Reading and writing practices employed by these teachers were nearly identical when looking at daily classroom routines. A follow up study might look at a comparison of teaching practices between reading recovery teachers and early childhood teachers who do not have reading recovery training to determine if they also employ similar teaching practices when teaching reading and writing.

2. The music specialists in this study had training in the Orff and Kodály approaches. Their daily routines had differences in sequence of activities, and not all specialists used the same routines each day. A follow up study could look at a comparison of teaching practices between the Kodály and Orff approaches to determine how they develop emergent musical literacy in young children, leading to reading and writing of musical notation.

3. Teaching practices in language arts are supported with a substantial body of research (Yopp, 1995; Fox, 1996; Blanchman, 1991; Adams, 1990) and a tremendous variety of teaching strategies to use in the teaching of reading and writing to children. It seems wise to look at these practices more closely to determine which practices might be applied to the teaching of music literacy most successfully and if music students benefit from these teaching practices.

4. In the future, researchers might want to investigate if teaching music to young students through an immersion of sound and symbol would in fact, increase musical literacy development. Students would be introduced to notation immediately with the concepts of musical phonological awareness being integrated within the notation. Visual, aural and kinesthetic modalities would be used the majority of the time. The control group would consist of traditional sound-to-symbol teaching practices. Pre and post testing could provide comparisons.

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Appendix A

TEACHER PARTICIPANT CONSENT FORM

Dear __________,

As per our telephone conversation, thank you for agreeing to participate in my research on teacher's perceptions of sound-to-symbol practices with grade one students. Your expertise and knowledge in this area will provide an opportunity to explore connections between music and early childhood methodologies and to derive an understanding of possible implications for teaching methods in both music and grade one classrooms.

Participation in this study will involve an interview at an agreed upon and convenient time and place prior to the beginning of classes in September. This interview will be conducted by me and audio taped. A transcript of the audio tape will be provided as soon as possible for you to review and confirm, and the audio tape will be erased once the transcript is accepted.

Following the interview, I will observe you instructing the grade one students twice at a pre-arranged time during September and October to view skills and practices related to the sound-to-symbol process. During the observations, I will take field notes and a copy will be provided for you to review and confirm.

The data collected and analyzed during this study will be shared in my thesis and other scholarly publications and presentations. Anonymity will be preserved since the names of teachers and their schools will not be used in reporting any of the research data. You are free to withdraw from participating in the study at any time without penalty.

Please fill out the consent form below. If you have any questions or concerns regarding this study, please feel free to contact me at ***-****. I look forward to working with you.

Sincerely,

Natalie Prytuluk

$ -

I ______________________ ______________________________

FIRST NAME LAST NAME

agree to participate in the research study "*Sound-to-Symbol Pedagogical Practices in Music and Early Childhood*". I understand I have the right to withdraw from the study at any time without penalty.

____________________________________ ______________________

SIGNATURE DATE

Appendix B

Interview Questions
for
Music Specialists and Early Childhood Teachers

- Opener - Discuss the research I am doing and what it is about. Define any terms the participant doesn't understand. Lead into the discussion with an observation.
(i.e. Tell me about your classroom. I noticed. . .)

- Tell me about your classroom routines with your grade one students.

- Tell me about the kinds of activities (sound-to-symbol practices) you use to guide your grade one students towards continued development of literacy / musical literacy skills?

- How do you incorporate these activities in your long range planning? your day to day planning? How do these activities fit with the curriculum?

- How do you accommodate for individual differences? Cooperative learning?

- Do you incorporate these activities/skills in a parental or home involvement program?

- What are some of the problems you have encountered when incorporating these activities in your program? or in working with these activities with students?

What are some of the successes?

- Tell me about training, information and support you have had in teaching the sound-to-symbol process.

- Tell me about any particular theories or methodologies that have helped shape your teaching practice.

- Are there any other experiences or concerns you would like to share regarding sound-to-symbol teaching practices?